

**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐  
(highlight changes)

|  |  |  |                           |
|--|--|--|---------------------------|
| <b>APPLICATION FOR PERMIT TO DRILL</b>   |  | 5. MINERAL LEASE NO:<br><b>ML-47969</b>  | 6. SURFACE:<br>State      |
| 1A. TYPE OF WORK:    DRILL <input checked="" type="checkbox"/> REENTER <input type="checkbox"/> DEEPEN <input type="checkbox"/>  |  | 7. IF INDIAN, ALLOTTEE OR TRIBE NAME:  |                           |
| B. TYPE OF WELL:    OIL <input type="checkbox"/> GAS <input checked="" type="checkbox"/> OTHER _____    SINGLE ZONE <input type="checkbox"/> MULTIPLE ZONE <input checked="" type="checkbox"/> |  | 8. UNIT or CA AGREEMENT NAME:  |                           |
| 2. NAME OF OPERATOR:<br><b>The Houston Exploration Company</b>   |  | 9. WELL NAME and NUMBER:<br><b>North Horseshoe 12-7-6-22</b>                   |                           |
| 3. ADDRESS OF OPERATOR:<br><b>1100 Louisiana Suite 20</b> CITY <b>Houston</b> STATE <b>TX</b> ZIP <b>77002</b>   |  | 10. FIELD AND POOL, OR WILDCAT:<br><b>Undesignated Wildcat</b>                 |                           |
| 4. LOCATION OF WELL (FOOTAGES)<br><br>AT SURFACE: <b>2010' FSL &amp; 595' FWL</b><br>AT PROPOSED PRODUCING ZONE: <b>same as above</b>  |  | 11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:<br><b>NWSW 7    6S    22E</b> |                           |
| 14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE:<br><b>23.8 miles south of Vernal, UT</b>   |  | 12. COUNTY:<br><b>Uintah</b>   | 13. STATE:<br><b>UTAH</b> |
| 15. DISTANCE TO NEAREST PROPERTY OR LEASE LINE (FEET)<br><b>595'</b>   | 16. NUMBER OF ACRES IN LEASE:<br><b>2,240</b>              | 17. NUMBER OF ACRES ASSIGNED TO THIS WELL:<br><b>40</b>                        |                           |
| 18. DISTANCE TO NEAREST WELL (DRILLING, COMPLETED, OR APPLIED FOR) ON THIS LEASE (FEET)<br><b>N/A</b>  | 19. PROPOSED DEPTH:<br><b>9,628</b>                        | 20. BOND DESCRIPTION:<br><b>104155044</b>                                      |                           |
| 21. ELEVATIONS (SHOW WHETHER DF, RT, GR, ETC.):<br><b>4,766 GR</b>   | 22. APPROXIMATE DATE WORK WILL START:<br><b>11/15/2005</b> | 23. ESTIMATED DURATION:<br><b>30 Days</b>                                      |                           |

| 24. PROPOSED CASING AND CEMENTING PROGRAM |   |      |       |               |   |         |         |
|---|---|------|-------|---------------|---|---------|---------|
| SIZE OF HOLE                              | CASING SIZE, GRADE, AND WEIGHT PER FOOT |      |       | SETTING DEPTH | CEMENT TYPE, QUANTITY, YIELD, AND SLURRY WEIGHT |         |         |
| 11"                                       | 8 5/8"                                  | J-55 | 36#   | 2,000         | PREMIUM LITE II                                 | 250 SKS | 3.38 CF |
|   |   |      |       |               | CLASS "G"                                       | 329 SKS | 1.2 CF  |
|   |   |      |       |               | Calcium Chloride                                | 200 SKS | 1.10 CF |
| 7 7/8"                                    | 4 1/2"                                  | N-80 | 11.6# | 9,401         | PREMIUM LITE II                                 | 200 SKS | 3.3 CF  |
|   |   |      |       |               | CLASS "G"                                       | 400 SKS | 1.56 CF |
|   |   |      |       |               |   |         |         |
|   |   |      |       |               |   |         |         |

| 25. ATTACHMENTS  |  |
|--|--|
| VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES:  |  |
| <input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER<br><br><input checked="" type="checkbox"/> EVIDENCE OF DIVISION OF WATER RIGHTS APPROVAL FOR USE OF WATER | <input checked="" type="checkbox"/> COMPLETE DRILLING PLAN<br><br><input type="checkbox"/> FORM 5, IF OPERATOR IS PERSON OR COMPANY OTHER THAN THE LEASE OWNER |

CONFIDENTIAL

|  |                      |
|--|----------------------|
| NAME (PLEASE PRINT) <u>William A. Ryan</u> | TITLE <u>Agent</u>   |
| SIGNATURE <u><i>William A. Ryan</i></u>    | DATE <u>11-14-05</u> |

(This space for State use only)

API NUMBER ASSIGNED: 43 047-37392

(11/2001)

**Approved by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
 Date: 01-20-06  
 By: *[Signature]*  
(See Instructions on Reverse Side)

RECEIVED  
 NOV 17 2005  
 DIV. OF OIL, GAS & MINING

R  
21  
E

R  
22  
E

T6S, R22E, S.L.B.&M.

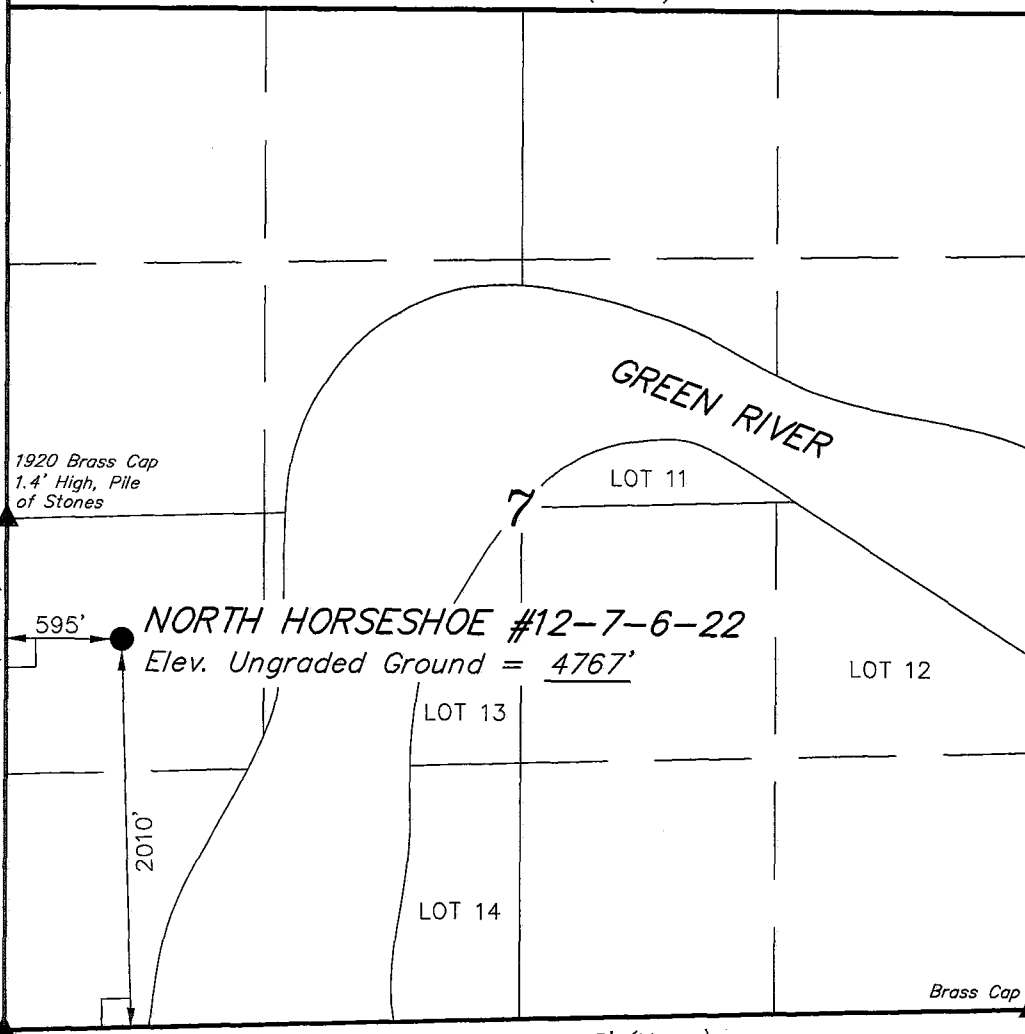
EAST - 5272.08' (G.L.O.)

N00°02'W - 2644.62' (G.L.O.)

N00°00'43"E - 2643.36' (Meas.)

NORTH - 5280.00' (G.L.O.)

1920 Brass Cap  
0.5' High, 2.0'  
SELY of N-W  
Fence Corner



# LEGEND:

└─┘ = 90° SYMBOL

● = PROPOSED WELL HEAD.

▲ = SECTION CORNERS LOCATED.

(AUTONOMOUS NAD 83)

LATITUDE = 40°18'41.66" (40.311572)

LONGITUDE = 109°29'35.74" (109.493261)

(AUTONOMOUS NAD 27)

LATITUDE = 40°18'41.80" (40.311611)

LONGITUDE = 109°29'33.26" (109.492572)

## BASIS OF BEARINGS

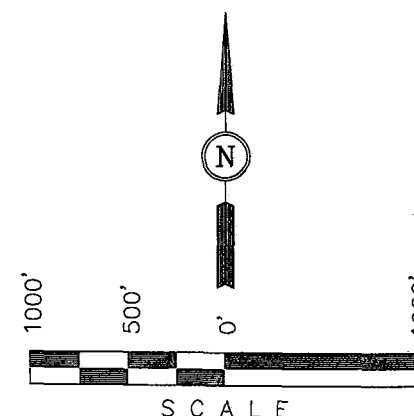
BASIS OF BEARINGS IS A G.P.S. OBSERVATION.

## THE HOUSTON EXPLORATION COMPANY

Well location, NORTH HORSESHOE #12-7-6-22, located as shown in the NW 1/4 SW 1/4 of Section 7, T6S, R22E, S.L.B.&M. Uintah County, Utah.

## BASIS OF ELEVATION

SPOT ELEVATION AT A HILLTOP LOCATED IN THE SW 1/4 OF SECTION 11, T6S, R22E, S.L.B.&M. TAKEN FROM THE RASMUSSEN HOLLOW QUADRANGLE, UTAH, UTAH COUNTY, 7.5 MINUTE SERIES (TOPOGRAPHICAL MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 4993 FEET.



## CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR  
REGISTRATION NO. 161319  
STATE OF UTAH

## UINTAH ENGINEERING & LAND SURVEYING

85 SOUTH 200 EAST - VERNAL, UTAH 84078

(435) 789-1017

|                         |  |                         |
|-------------------------|--|-------------------------|
| SCALE<br>1" = 1000'     | DATE SURVEYED:<br>08-22-05                 | DATE DRAWN:<br>08-24-05 |
| PARTY<br>N.H. D.S. P.M. | REFERENCES<br>G.L.O. PLAT                  |                         |
| WEATHER<br>WARM         | FILE<br>THE HOUSTON<br>EXPLORATION COMPANY |                         |

## **Ten Point Plan**

### **The Houston Exploration Company**

#### **North Horseshoe 12-7-6-22**

Surface Location NW ¼ SW ¼, Section 7, T. 6S., R. 22E.

#### **1. Surface Formation**

Green River

#### **2. Estimated Formation Tops and Datum:**

| <u>Formation</u> | <u>Depth</u> | <u>Datum</u> |
|------------------|--------------|--------------|
| GR               | Surface      | 4,766'       |
| KB               | +12'         | 4,778'       |
| Green River      | 3,828'       | +950'        |
| Wasatch          | 7,028'       | -2,250'      |
| Mesaverda        | 9,628'       | -4,850'TD    |

A 11" hole will be drilled to 2,000' +/- . The hole depth will depend on the depth that the Birds Nest Zone is encountered. The hole will be drilled 400' beyond the top of the Birds Nest.

#### **3. Producing Formation Depth:**

Formation objective includes the Green River, Wasatch, Mesaverde and its sub-members.

Off set well information

Permitted/Drilled:

None

Abandoned Wells:

None

#### 4. Proposed Casing:

| <u>Hole Size</u> | <u>Casing Size</u> | <u>Weight/FT</u> | <u>Grade</u> | <u>Coupling &amp; Tread</u> | <u>Casing Depth</u> | <u>New/Used</u> |
|------------------|--------------------|------------------|--------------|-----------------------------|---------------------|-----------------|
| 11               | 8 5/8              | 36#              | J-55         | STC                         | 2000                | NEW             |
| 7 7/8            | 4 1/2              | 11.6#            | N-80         | LTC                         | T.D.                | NEW             |

#### Cement Program:

The Surface Casing will be cemented to the Surface as follows:

|          | <u>Casing Size</u> | <u>Cement Type</u>   | <u>Cement Amounts</u> | <u>Cement Yield</u>     | <u>Cement Weight</u> |
|----------|--------------------|--|-----------------------|-------------------------|----------------------|
| Lead:    | 8 5/8              | Premium Lite II<br>.05#/sk Static Free<br>.25#/sk Cello Flake<br>5#/sk KOL Seal<br>.002 gps FP-6L<br>10% Bentonite<br>.5% Sodium Metasilicate<br>3% Potassium Chloride | 250 sks. +/-          | 3.38ft <sup>3</sup> /sk | 11.0 ppg             |
| Tail:    | 8 5/8              | Class "G"<br>2% Calcium Chloride<br>.25#/sk Cello Flake  | 329 sks. +/-          | 1.2ft <sup>3</sup> /sk  | 15.6 ppg             |
| Top Job: | 8 5/8              | 4% Calcium Chloride<br>.25#/sk Cello Flake   | 200 sks. +/-          | 1.10ft <sup>3</sup> /sk | 15.6 ppg             |

Production casing will be cemented to 2,500' or higher as follows:

|       | <u>Casing<br/>Size</u> | <u>Cement<br/>Type</u>  | <u>Cement<br/>Amounts</u> | <u>Cement<br/>Yield</u> | <u>Cement<br/>Weight</u> |
|-------|------------------------|---|---------------------------|-------------------------|--------------------------|
| Lead: | 4 1/2                  | Premium Lite II<br>.25#/sk Cello Flake<br>.05#/sk Static Free<br>5#/sk Kol Seal<br>3% Potassium Chloride<br>.055 gps FP-6L<br>10% Bentonite<br>.5 Sodium Metasilicate | 200 sks +/-               | 3.3ft <sup>3</sup> /sk  | 11.0 ppg                 |
| Tail: | 4 1/2                  | Class "G"<br>.05% Static Free<br>2 Sodium Chloride<br>.1% R-3<br>2% Bentonite   | 400 sks +/-               | 1.56ft <sup>3</sup> /sk | 14.3 ppg                 |

##### **5. BOP and Pressure Containment Data:**

The anticipated bottom hole pressure will be less than 3000 psi.

A 3000-psi WP BOP system as described in the BOP and Pressure Containment Data (attached) will be installed and maintained from the 8 5/8" surface casing. The BOP system including the casing will be pressure tested to minimum standards set forth in "On Shore Order #2". The BOP will be mechanically checked daily during the drilling operation.

## 6. Mud Program:

| <u>Interval</u> | <u>Mud weight<br/>lbs./gal.</u> | <u>Viscosity<br/>Sec./OT.</u> | <u>Fluid Loss<br/>Ml/30 Mins.</u> | <u>Mud Type</u> |
|-----------------|---------------------------------|-------------------------------|-----------------------------------|-----------------|
| 0-2000          | Air/Clear Water                 | -----                         | No Control                        | Water/Gel       |
| 2000-T.D.       | 8.4-12.0                        | 30                            | 8-10                              | Water/Gel       |

## 7. Auxiliary Equipment

Upper Kelly cock, full opening stabbing valve, 2 1/2" choke manifold and pit level indicator.

## 8. Testing, Coring, Sampling and Logging:

- a) Test: None are anticipated.
- b) Coring: There is the possibility of sidewall coring.
- c) Sampling: Every 10' from 2000' to T.D.
- d) Logging:

|                      |                   |
|----------------------|-------------------|
| Type                 | Interval          |
| DLL/SFL W/GR and SP  | T.D. to Surf. Csg |
| FDC/CNL W/GR and CAL | T.D. to Surf. Csg |

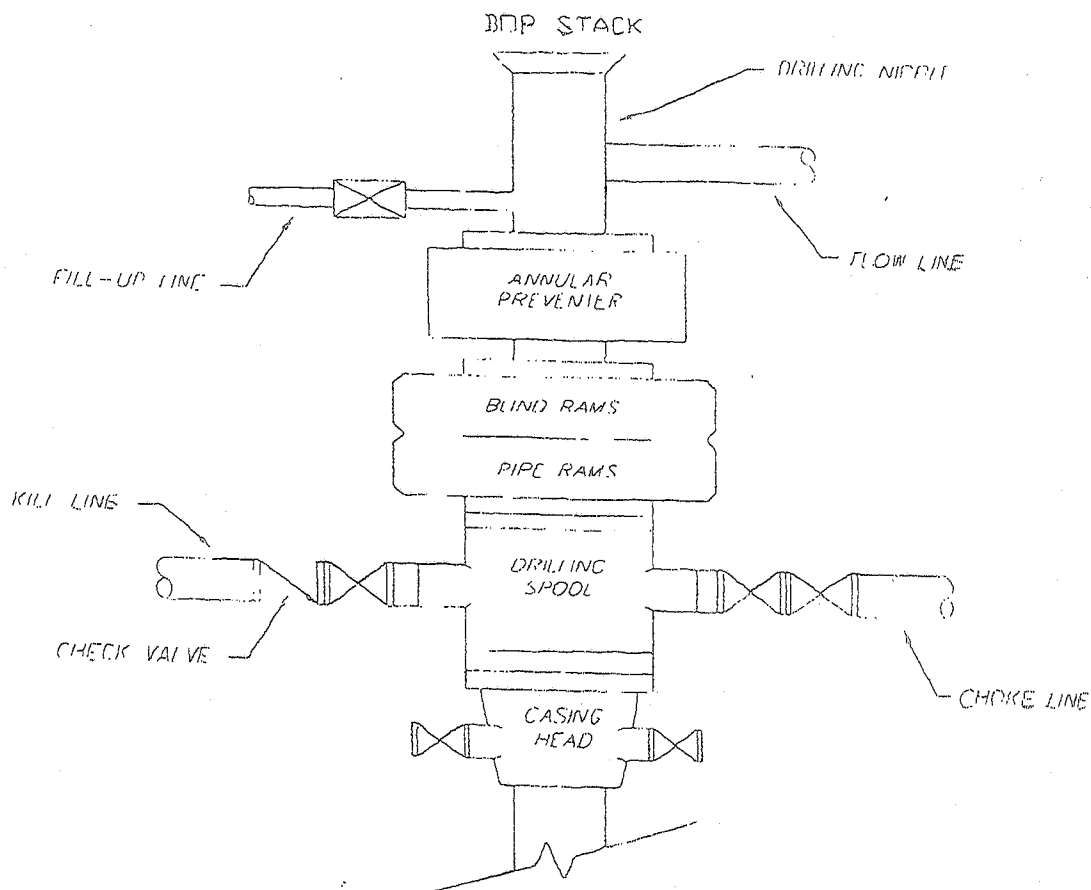
## 9. Abnormalities (including sour gas):

No abnormal pressures, temperatures or other hazards are anticipated. Oil and gas shows are anticipated in the Wasatch Formation. Other wells drilled in the area have not encountered over pressured zones or H2S.

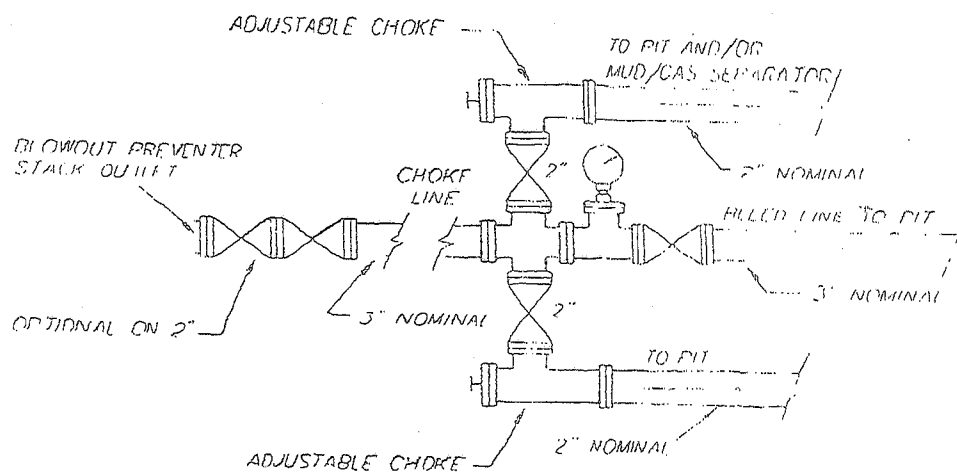
## 10. Drilling Schedule:

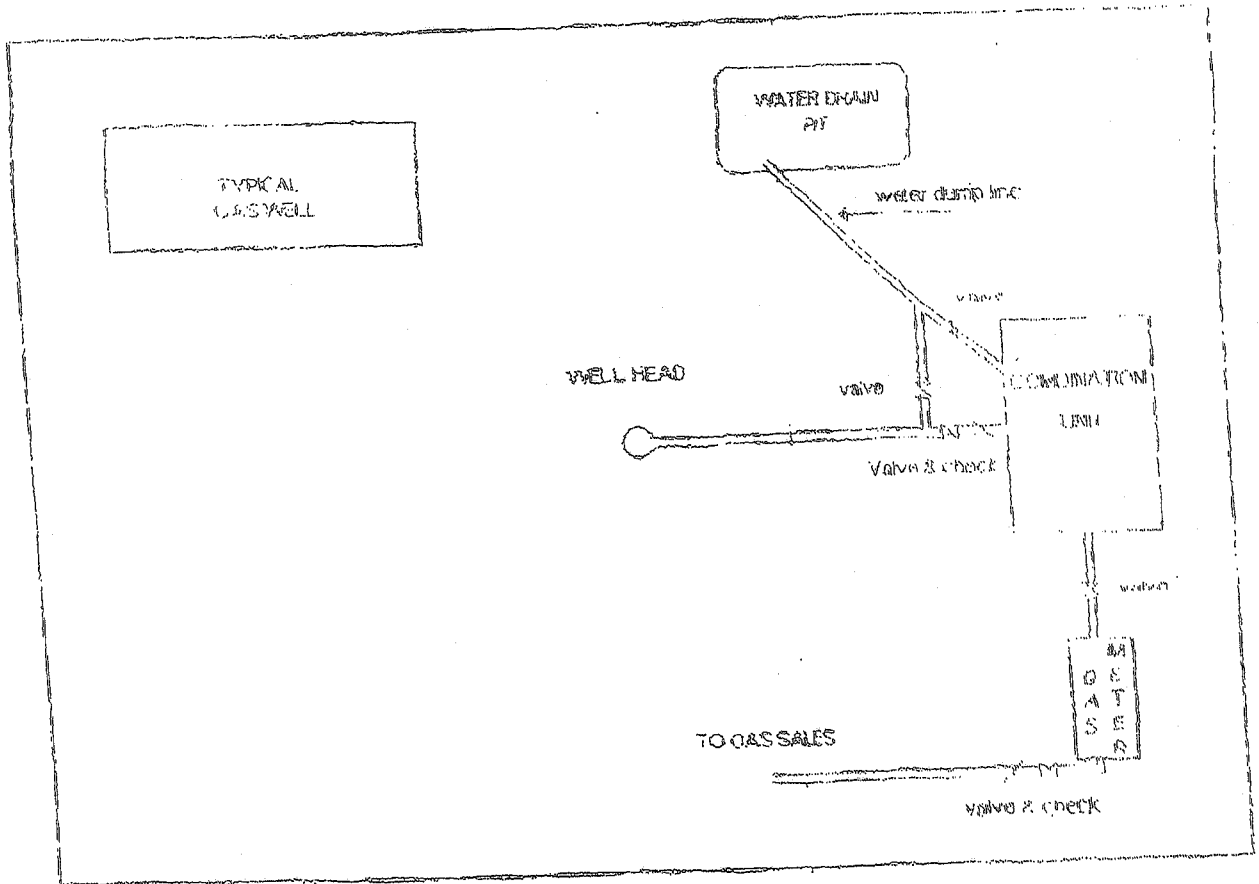
The anticipated starting date is 1/1/2005. Duration of operations is expected to be 30 days.

TYPICAL 3,000 p.s.i.  
BLOWOUT PREVENTER SCHEMATIC



TYPICAL 3,000 p.s.i.  
CHOKE MANIFOLD SCHEMATIC







**THE HOUSTON EXPLORATION COMPANY**

**13 POINT SURFACE USE PLAN**

**FOR WELL**

**NORTH HORSESHOE 12-7-6-22**

**LOCATED IN NW  $\frac{1}{4}$  SW  $\frac{1}{4}$**

**SECTION 7, T. 6S, R22E, S.L.B.&M.**

**UINTAH COUNTY, UTAH**

**LEASE NUMBER: ML-47969**

**SURFACE OWNERSHIP: STATE**

1. Existing Roads:

To reach The Houston Exploration Co. well North Horseshoe 12-7-6-22 in Section 7, T6S, R 22E, Starting in Vernal, Utah.

Proceed in an easterly, then southerly direction from Vernal, Utah along U.S. Highway 40 approximately 3.9 miles to the junction of this road and State Highway 45; exit right and proceed in a southerly, then southeasterly direction approximately 7.4 miles on State Highway 45 to the junction of this road and an existing road to the southwest, turn right and proceed in a southwesterly, then westerly direction approximately 0.8 miles to the beginning of the proposed access to the northwest; follow road flags in a northwesterly, then northerly, then southerly direction approximately 0.4 miles to the proposed location.

Total distance from Vernal, Utah to the proposed well location is approximately 23.8 miles.

All existing roads to the proposed location are State of Utah, BLM maintained or County Class D roads. Please see the attached map for additional details.

2. Planned access road

The proposed access road will be approximately 2,112' +/- of new construction on lease. The road will be graded once per year minimum and maintained.

- A) Approximate length 2112 ft
  - B) Right of Way width 30 ft
  - C) Running surface 18 ft
  - D) Surface material Native soil
  - E) Maximum grade 5%
  - F) Fence crossing None
  - G) Culvert None
  - H) Turnouts None
  - I) Major cuts and fills None
  - J) Road Flagged Yes
  - K) Access road surface ownership State
  - L) All new construction on lease Yes
  - M) Pipe line crossing None
- Please see the attached location plat for additional details.

An off lease right-of-way will not be required.

All surface disturbances for the road and location will be within the lease boundary.

3. Location of existing wells

The following wells are located within a one-mile radius of the location site.

- A) Producing well None
- B) Water well None
- C) Abandoned well None
- D) Temp. abandoned well None
- E) Disposal well None
- F) Drilling /Permitted well None
- G) Shut in wells None
- H) Injection well None
- I) Monitoring or observation well None

Please see the attached map for additional details.

4. Location of tank batteries, production facilities and production gathering service lines.

All production facilities are to be contained within the proposed location site. Please see the attached plat plan for a typical gas well separator installation and well site piping.

All permanent (on site for more than six months or longer) structures constructed or installed will be painted an **Carlsbad Canyon** color. Facilities required to comply with O.S.H.A. (Occupational Safety and Health Act) will be excluded. The required paint color is **Carlsbad Canyon**.

All tanks will be surrounded by a dike of sufficient capacity to contain the storage capacity of the largest tank in the battery. The integrity of the dike will be maintained.

The operator will adhere to all site security guidelines and regulation identified in 43 cfr 3126.7.

All off lease storage, off lease measurement, commingling on lease or off lease, of production, will have prior written approval from the authorized officer.

If the well is capable of economic production a surface gas line will be required.

**Approximately 4,800' +/- of 3" steel surface gas gathering line would be constructed on State Lands. The line will tie into the existing pipeline in Section 7, T6S,**

**R22E. The pipeline would be strung and boomed to the east of the location. The pipeline may be buried as determined by the Authorized Officer at the onsite.**

**An off lease right-of-way will not be required.**

**Please see the attached location diagrams for pipeline location.**

The gas meter run will be located within 500' of the wellhead. The gas line will be buried or anchored down from the wellhead to the meter. Meter runs will be housed and/or fenced.

The gas meter will be calibrated and the tank strapped in place prior to any deliveries. Tests for meter accuracy will be conducted monthly for the first three months on new meter installations and at least quarterly thereafter. The authorized officer will be provided with a date and time for the initial meter calibration and all future meter-proving schedules. A copy of the meter calibration report will be submitted to the BLM's Vernal District office and State of Utah, Division of Oil, Gas, and Mining. All measurement facilities will conform to API (American Petroleum Institute) and AGA (American Gas Association) standards for gas and liquid hydrocarbon measurement.

5. Location and type of water supply

**Water for drilling and cementing will come from The Green River in Permit # T-76073.**

6. Source of construction materials

All construction material for this location site and access road shall be borrow material accumulated during construction of the location site and access road. Additional road gravel or pit lining material will be obtained from private resources.

7. Methods for handling waste disposal

A) Pit construction and liners:

The reserve pit will be approximately **12 ft.** deep and most of the depth shall be below the surface of the existing ground. Please see the attached plat for details.

The reserve pit will be lined.

The reserve pit will be used to store water for drilling. A semi-closed system will be used to drill the well. All fresh water for drilling will come from a frac tank placed on location and from the rig tank. The pit will be used to hold non-flammable materials such as cuttings, salt, drilling fluids, chemicals, produced fluids, etc.

B) Produced fluids:

Produced water will be confined to the reserve pit, or if deemed necessary, a storage tank for a period not to exceed 90 days after initial production. During the 90-day period an application for approval for permanent disposal method and location will be submitted to the authorized officer. **Evaporation may be used instead of trucking to facilitate closing and reclamation of the reserve pit. A pumping system would be used for evaporation.**

C) Garbage:

A trash cage fabricated from expanded metal will be used to hold trash on location and will be removed to an authorized landfill location.

D) Sewage:

A portable chemical toilet will be supplied for human waste.

E) Site clean-up:

After the rig is moved off the location the well site area will be cleaned and all refuse removed.

8. Ancillary facilities

There are no ancillary facilities planned at this time and none are foreseen for the future.

9. Well-site layout

Location dimensions are as follows:

- A) Pad length 345 ft.
- B) Pad width 245 ft.
- C) Pit depth 12 ft.
- D) Pit length 150 ft.
- E) Pit width 75 ft.
- F) Max cut 31.9 ft.
- G) Max fill 16.0 ft.
- H) Total cut yds. 22,150 cu yds
- I) Pit location East side
- J) Top soil location North end
- K) Access road location North end
- L) Flare Pit corner C

Please see the attached location diagram for additional details.

All pits will be fenced according to the following minimum standards:

- A) Thirty nine inch net wire shall be used with at least one strand of wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.
- B) The net wire shall be no more than 2 inches above the ground. The barbed wire shall be 3 inches above the net wire. Total height of the fence shall be at least 42 inches.
- C) Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.

D) Standard steel, wood or pipe posts shall be used between the corner braces. Maximum distance between any two posts shall be no greater than 16 ft.

E) All wire shall be stretched by using a stretching device before it is attached to the corner posts.

10. Plans for restoration of the surface

Prior to construction of the location, the top 6 inches of soil material will be stripped off the location and the pit area. The topsoil removed and piled will amount to approximately 2,180 cubic yards of material. Topsoil will be stockpiled in one distinct pile. Placement of the topsoil is noted on the attached location plat. The topsoil pile from the location will be seeded as soon as the soil is stock piled with the seed mix listed. When all drilling and completion activities have been completed and the pit back-filled the topsoil from the pit area will be spread on the pit area. The pit area will be seeded when the soil has been spread. The unused portion of the location (the area outside the dead men) will be re-contoured.

The dirt contractor will be provided with an approved copy of the surface use plan prior to construction activities.

Changes to the drainage during the construction activities shall be restored to its original line of flow or as near as possible when the pit is back-filled

All disturbed areas will be re-contoured to the approximate natural contours. Prior to back filling the pit the fences around the reserve pit will be removed.

The reserve pit will be reclaimed within 90 days of well completion. If the reserve pit has not dried sufficiently to allow back filling, an extension on the time requirement for back filling the pit will be requested. Once reclamation activities have begun, they shall be completed within 30 days.

After the reserve pit has been reclaimed, no depressions in the soil covering the reserve pit will be allowed. The objective is to keep seasonal rainfall and run off from seeping into the soil used to cover the reserve pit. Diversion ditches and water bars will be used to divert the run off as needed.

When restoration activities have been completed, the location site and new access road cuts and shoulders shall be reseeded. Prior to reseeding, all disturbed areas will be scarified and left with a rough surface.

A) Seeding dates:

Seed will be spread when topsoil is stock piled and when reclamation work is performed.

The seed mix and quantity list will be used whether the seed is broadcast or drilled.

B) Seed Mix

**To be determined by the  
Authorized Officer.**

11. Surface ownership:

|                    |              |
|--------------------|--------------|
| <b>Access road</b> | <b>State</b> |
| <b>Location</b>    | <b>State</b> |
| <b>Pipe line</b>   | <b>State</b> |

12. Other information:

A) Vegetation

The vegetation coverage is Slight. The majority of the existing vegetation consists of non-native species. Rabbit brush, bitter brush, and Indian Rice grass and Sagebrush are also found on the location.

B) Dwellings:

There are no dwelling or other facilities within a one-mile radius of the location.

C) Archeology:

The location has been surveyed. A copy of that survey will be forwarded to your office.

If, during operations, any archaeological or historical sites, or any objects of antiquity (subject to the antiquities act of June 8, 1906) are discovered, all operations, which would affect such sites, will be suspended and the discovery reported

promptly to the surface  
management agency.

been off production for  
more than 90 days.

D) Water:

**The nearest water is the  
Green River located  
1,100' +/- to the East.**

E) Chemicals:

No pesticides, herbicides or  
other possible hazardous  
chemicals will be used without  
prior application.

F) Notification:

- a) Location Construction  
At least forty eight (48)  
hours prior to  
construction of location  
and access roads.
- b) Location completion  
Prior to moving on the  
drilling rig.
- c) Spud notice  
At least twenty-four (24)  
hours prior to spudding  
the well.
- d) Casing string and  
cementing  
At least twenty-four (24)  
hours prior to running  
casing and cementing all  
casing strings.
- e) BOP and related  
equipment tests  
At least twenty-four (24)  
hours prior to initial  
pressure tests.
- f) First production notice  
Within five (5) business  
days after the new well  
begins, or production  
resumes after well has

G) Flare pit:

The flare pit will be located in  
**corner C** of the reserve pit out  
side the pit fences and 100 feet  
from the bore hole on the east  
side of the location. All fluids  
will be removed from the pit  
within 48 hours of occurrence.

13. Lessees or Operator's representative  
and certification

A) Representative

William A. Ryan  
Rocky Mountain Consulting  
290 S 800 E  
Vernal, UT 84078

Office 435-789-0968  
Fax 435-789-0970  
Cellular 435-828-0968

All lease and/or unit operations  
will be conducted in such a  
manner that full compliance is  
made with all applicable laws,  
regulations, onshore oil and gas  
orders, and any applicable  
notices to lessees. The operator  
is fully responsible for the  
actions of his subcontractors. A  
copy of these conditions will be  
furnished to the field  
representative to ensure  
compliance.


This drilling permit will be  
valid for a period of one year  
from the date of approval.  
After permit termination, a new

application will be filed for approval for any future operations.

B) Certification:

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill-site and access route that I am familiar with the conditions which presently exist, that the statements made in this plan are, to the best of my knowledge and belief, true and correct, and that the work associated with the operation proposed herein will be preformed by The Houston Exploration Company and its contractors and subcontractors in conformity with this plan and terms and conditions with this plan and the terms and conditions under which it is approved.

Date 11-14-05

  
William A. Ryan, Agent  
Rocky Mountain Consulting

**Onsite Dates:**



### Statement of use of Hazardous Materials

No chemical(s) from the EPA's consolidated list of Chemicals subject to Reporting under Title III of the Superfund Amendments and Reauthorization, Act (SARA) of 1980 will be used, produced, transported, stored, disposed, or associated with the proposed action. No extremely hazardous substances, as defined in 40 cfr 355, will be used, produced, stored, transported, disposed, or associated with the proposed action.

If you require additional information please contact:

William A Ryan  
Agent for The Houston Exploration Company  
Rocky Mountain Consulting  
290 S 800 E  
Vernal, UT 84078

435-789-0968 Office  
435-828-0968 Cell  
435-789-0970 Fax

# THE HOUSTON EXPLORATION COMPANY

## NORTH HORSESHOE #12-7-6-22

LOCATED IN UTAH COUNTY, UTAH

SECTION 7, T6S, R22E, S.L.B.&M.

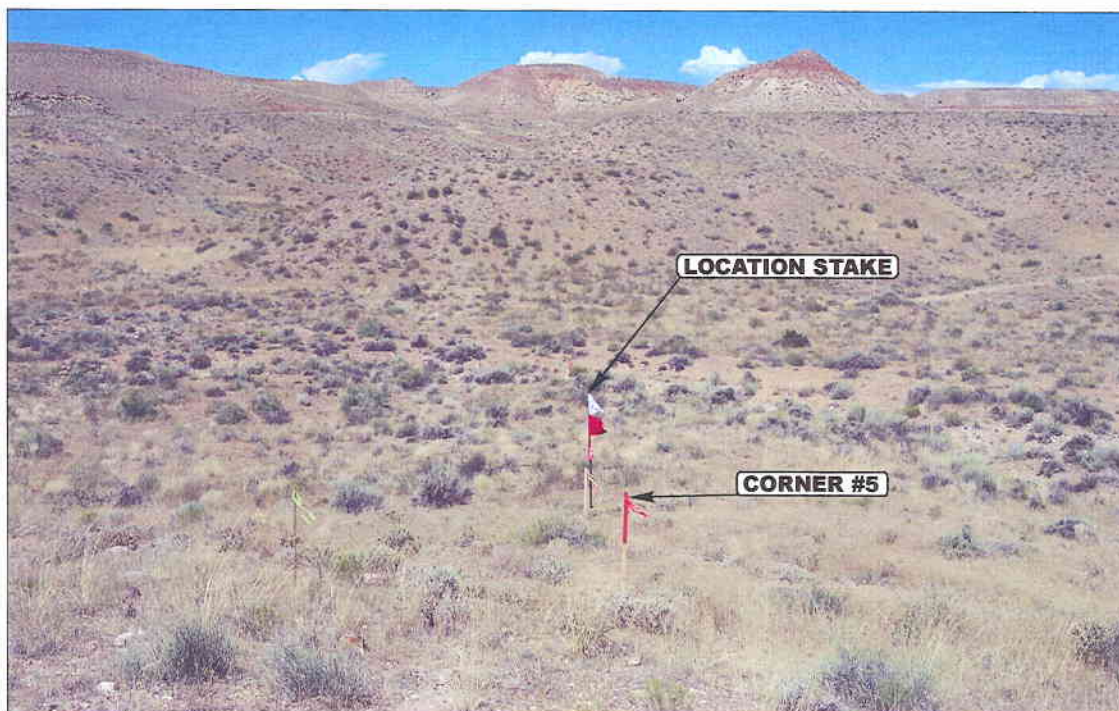


PHOTO: VIEW FROM CORNER #5 TO LOCATION STAKE

CAMERA ANGLE: NORTHWESTERLY

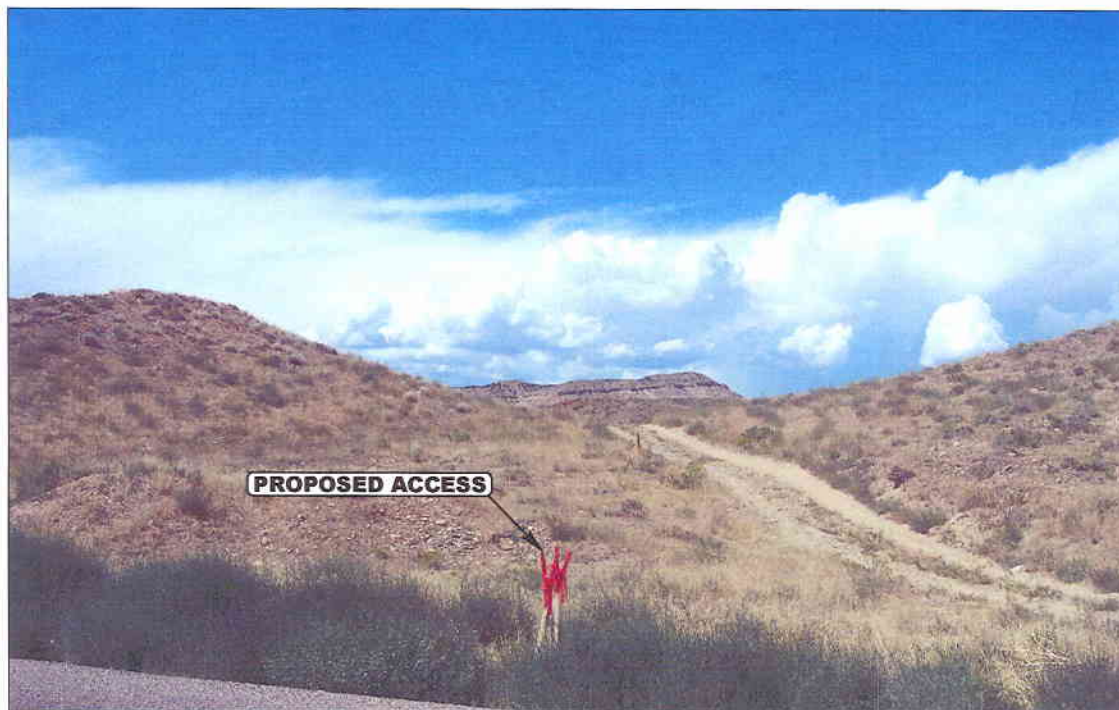


PHOTO: VIEW FROM BEGINNING OF PROPOSED ACCESS

CAMERA ANGLE: NORTHERLY



- Since 1964 -

Uintah Engineering & Land Surveying  
85 South 200 East Vernal, Utah 84078  
435-789-1017 uels@uelsinc.com

LOCATION PHOTOS

08 29 05  
MONTH DAY YEAR

PHOTO

TAKEN BY: N.H.

DRAWN BY: C.H.

REVISED: 00-00-00

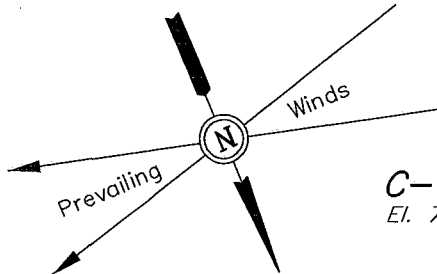
# THE HOUSTON EXPLORATION COMPANY

FIGURE #1

## LOCATION LAYOUT FOR

NORTH HORSESHOE #12-7-6-22  
SECTION 7, T6S, R22E, S.L.B.&M.  
2010' FSL 595' FWL

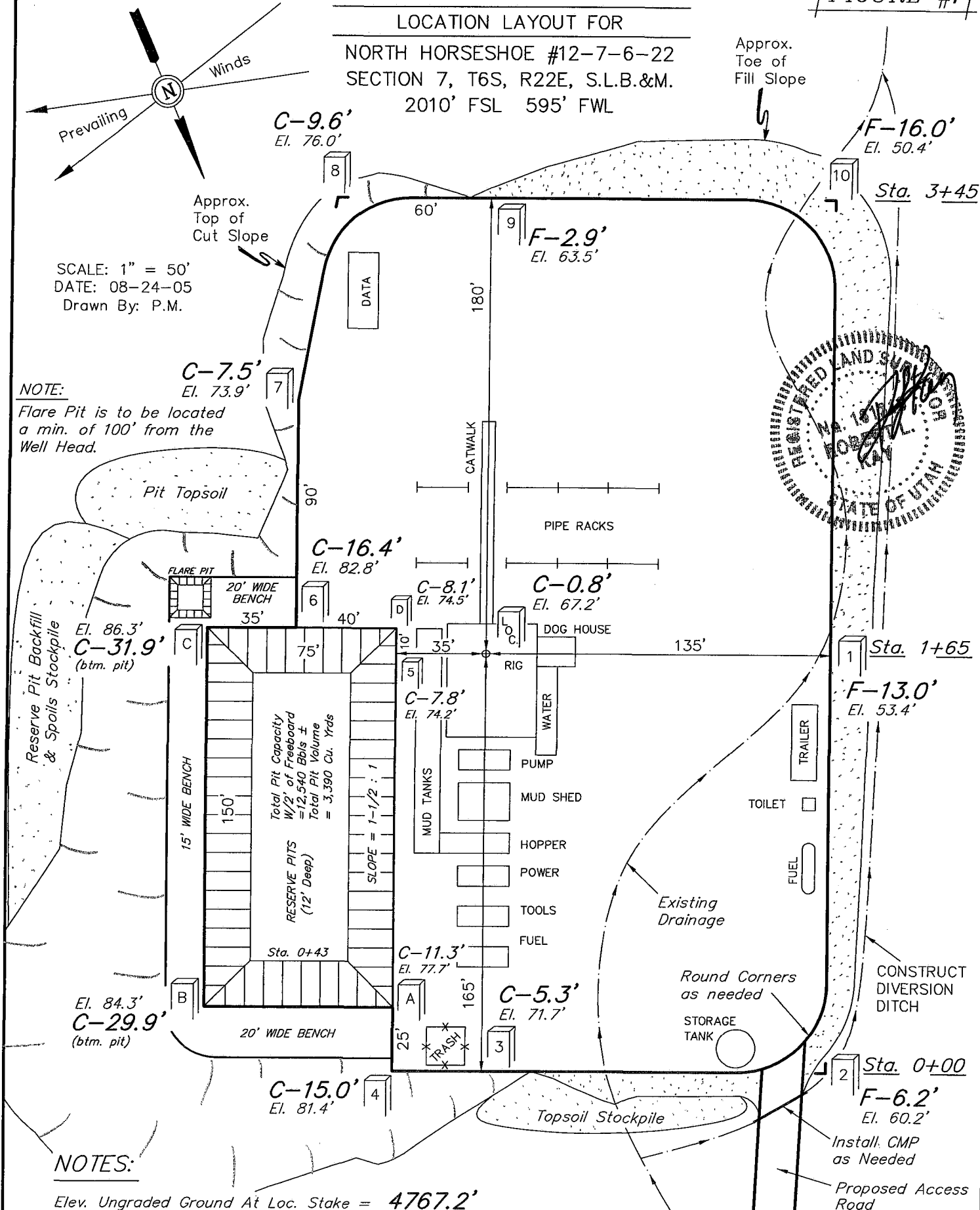
Approx.  
Toe of  
Fill Slope



SCALE: 1" = 50'  
DATE: 08-24-05  
Drawn By: P.M.

### NOTE:

Flare Pit is to be located  
a min. of 100' from the  
Well Head.



### NOTES:

Elev. Ungraded Ground At Loc. Stake = 4767.2'

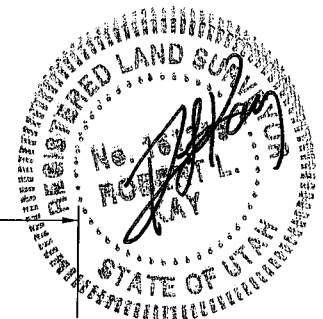
FINISHED GRADE ELEV. AT LOC. STAKE = 4766.4'

UINTAH ENGINEERING & LAND SURVEYING  
85 So. 200 East \* Vernal, Utah 84078 \* (435) 789-1017

# THE HOUSTON EXPLORATION COMPANY

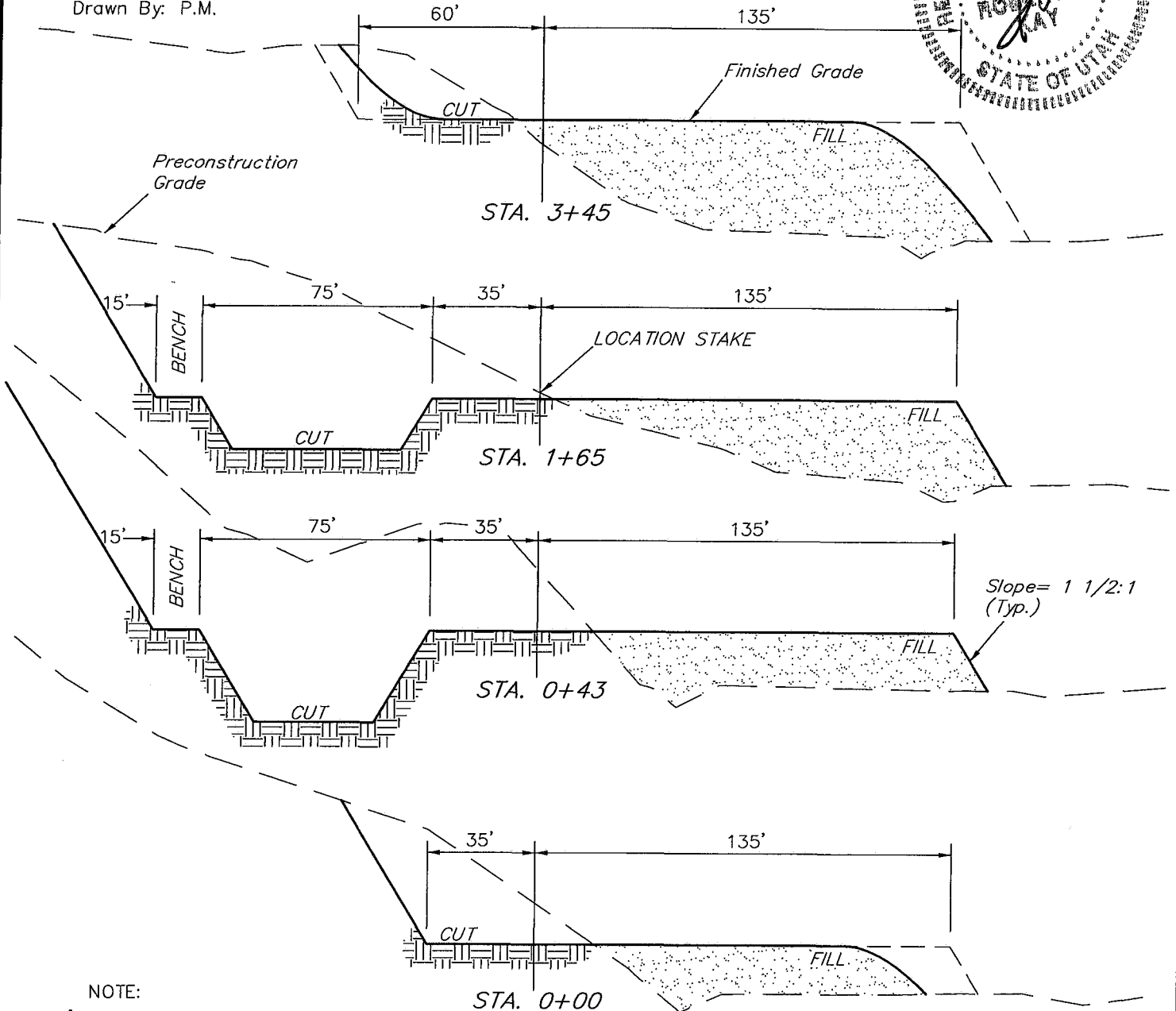
FIGURE #2

TYPICAL CROSS SECTIONS FOR  
NORTH HORSESHOE #12-7-6-22  
SECTION 7, T6S, R22E, S.L.B.&M.  
2010' FSL 595' FWL



1" = 20'  
X-Section Scale  
1" = 50'

DATE: 08-24-05  
Drawn By: P.M.



**NOTE:**

Topsoil should not be Stripped Below Finished Grade on Substructure Area.

**\* NOTE:**

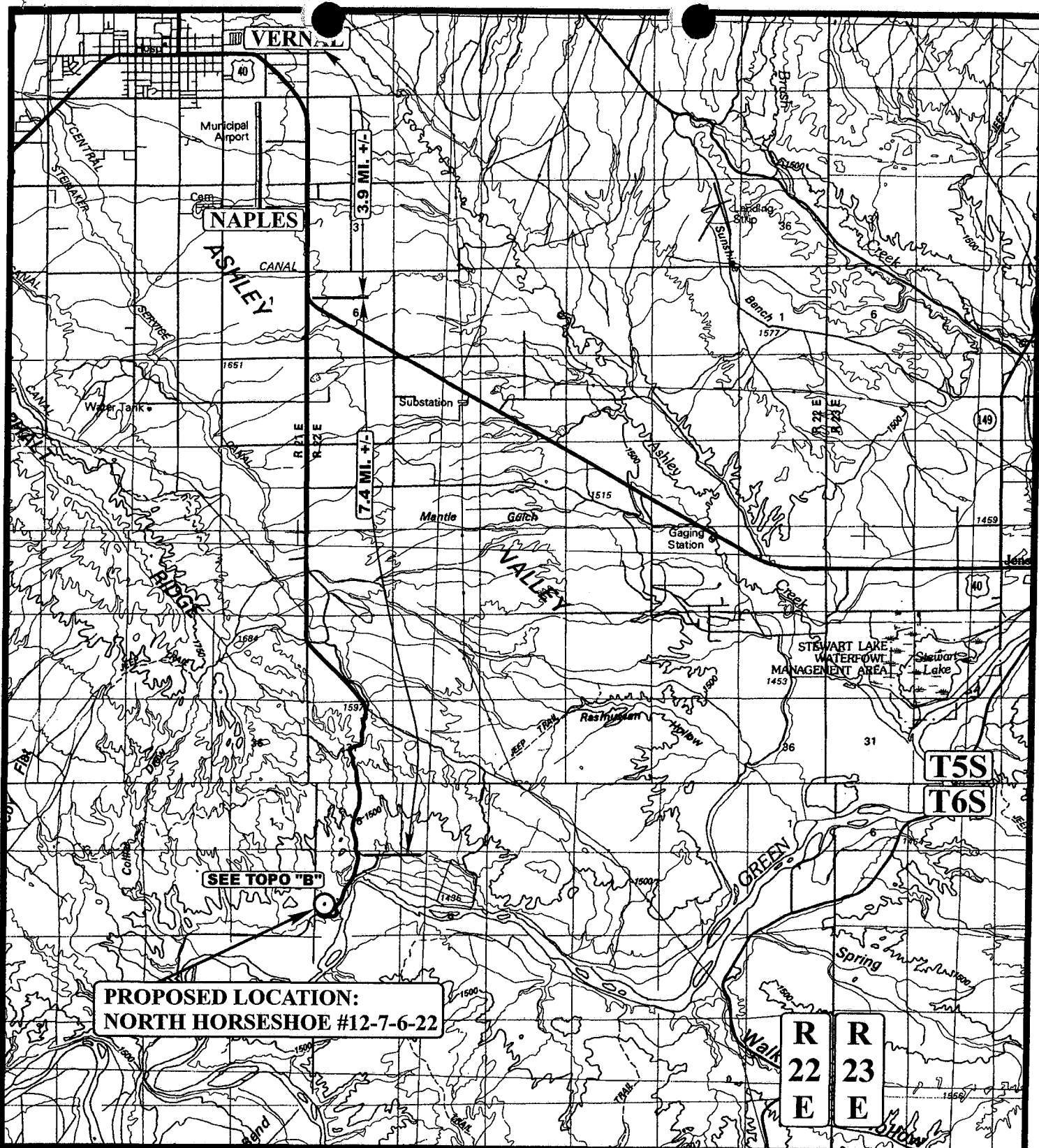
FILL QUANTITY INCLUDES 5% FOR COMPACTION

## APPROXIMATE YARDAGES

|                        |          |                       |
|------------------------|----------|-----------------------|
| CUT                    |          |                       |
| (6") Topsoil Stripping | =        | 2,180 Cu. Yds.        |
| Remaining Location     | =        | 19,970 Cu. Yds.       |
| <b>TOTAL CUT</b>       | <b>=</b> | <b>22,150 CU.YDS.</b> |
| <b>FILL</b>            | <b>=</b> | <b>18,280 CU.YDS.</b> |

|   |   |                |
|---|---|----------------|
| EXCESS MATERIAL                         | = | 3,870 Cu. Yds. |
| Topsoil & Pit Backfill (1/2 Pit Vol.)   | = | 3,870 Cu. Yds. |
| EXCESS UNBALANCE (After Rehabilitation) | = | 0 Cu. Yds.     |

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# **LEGEND:**

○ PROPOSED LOCATION

## **THE HOUSTON EXPLORATION COMPANY**

**NORTH HORSESHOE #12-7-6-22**  
**SECTION 7, T6S, R22E, S.L.B.&M.**  
**2010' FSL 595' FWL**



**Utah Engineering & Land Surveying**  
 85 South 200 East Vernal, Utah 84078  
 (435) 789-1017 \* FAX (435) 789-1813



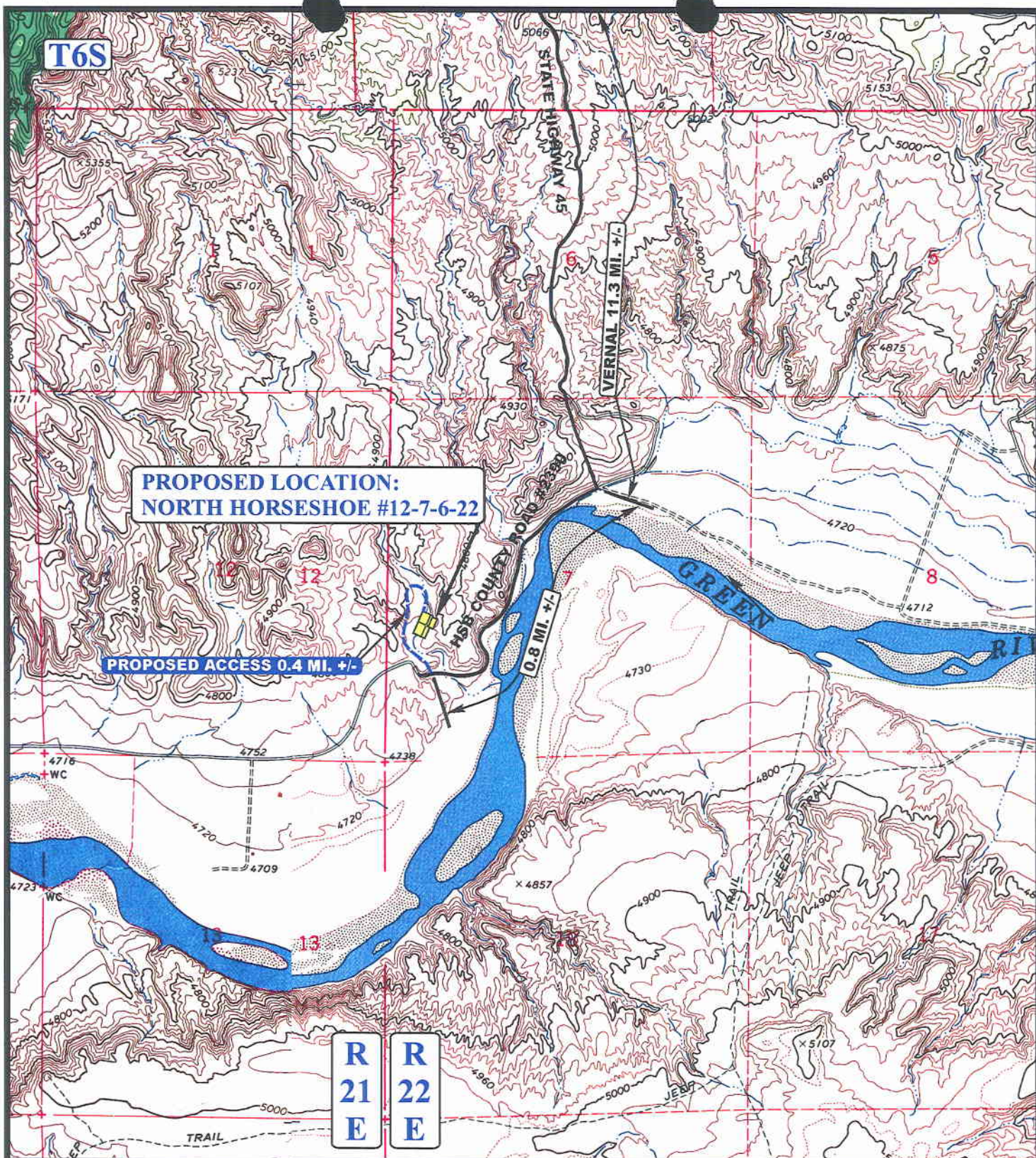
**TOPOGRAPHIC**  
**MAP**

**08 29 05**  
 MONTH DAY YEAR

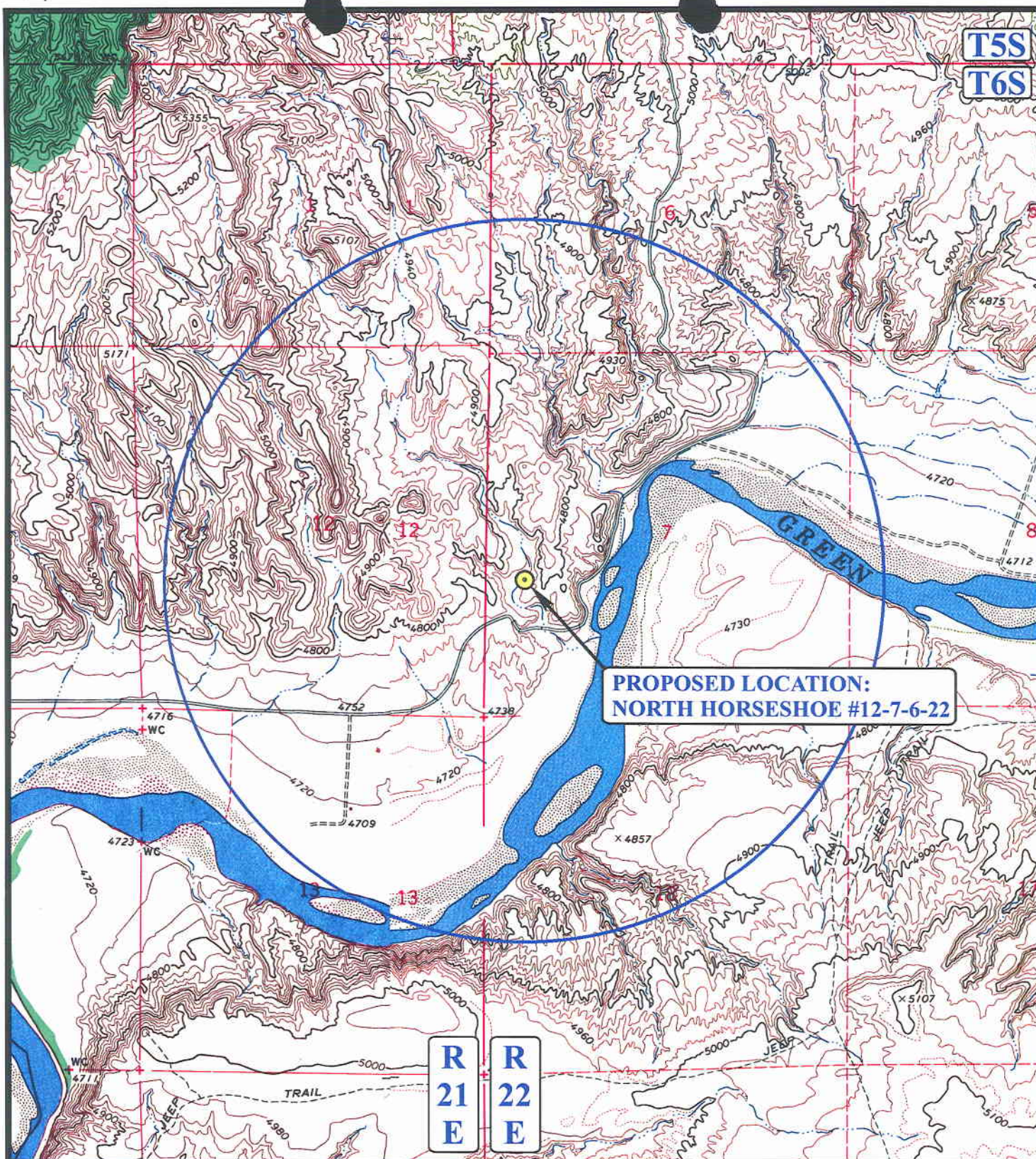
**SCALE: 1:100,000** **DRAWN BY: C.H.** **REVISED: 00-00-00**











# LEGEND:

- |                 |                       |
|-----------------|-----------------------|
| DISPOSAL WELLS  | WATER WELLS           |
| PRODUCING WELLS | ABANDONED WELLS       |
| SHUT IN WELLS   | TEMPORARILY ABANDONED |



## THE HOUSTON EXPLORATION COMPANY

**NORTH HORSESHOE #12-7-6-22**  
**SECTION 7, T6S, R22E, S.L.B.&M.**  
**2010' FSL 595' FWL**



**Uintah Engineering & Land Surveying**  
 85 South 200 East Vernal, Utah 84078  
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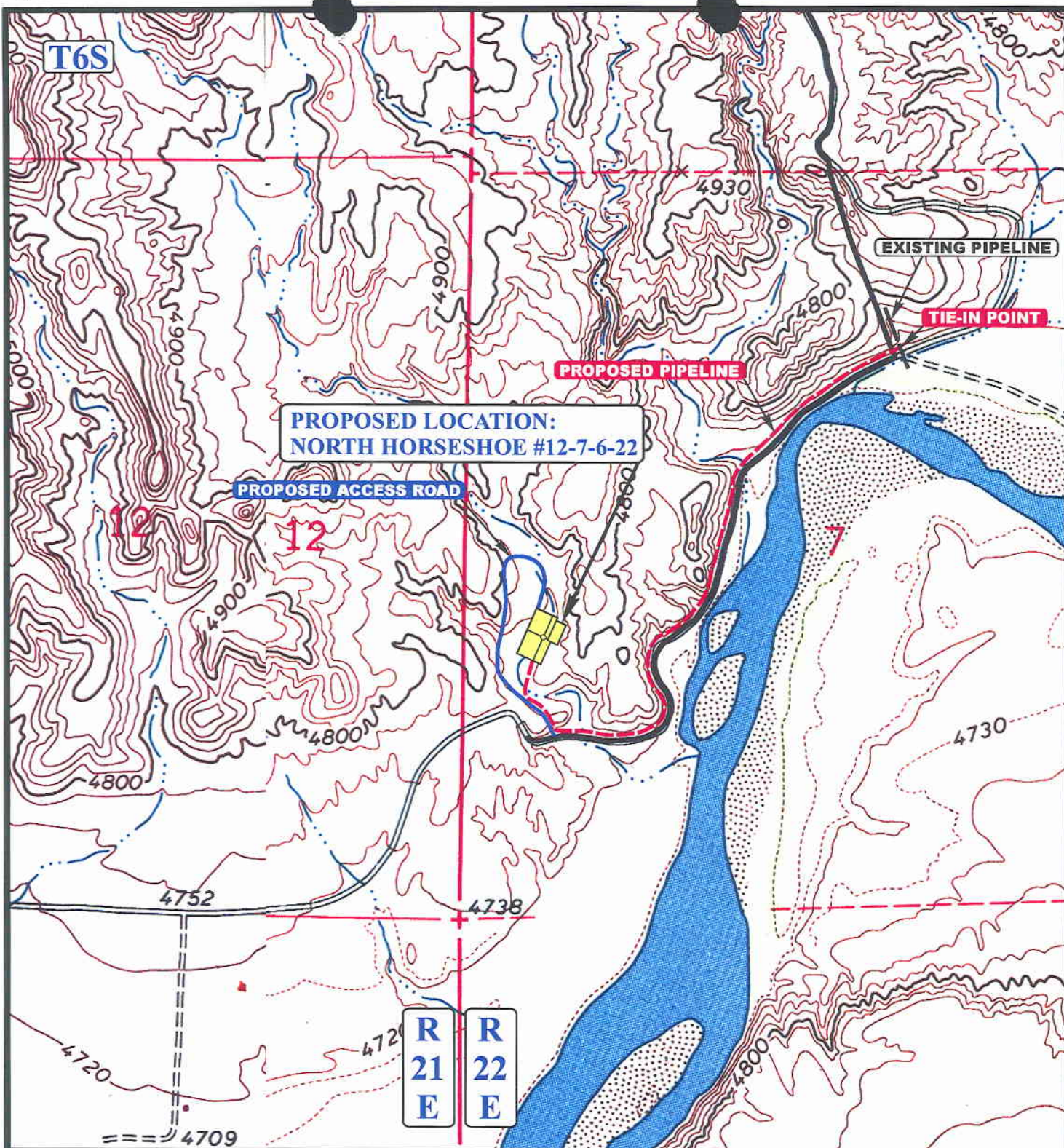
**TOPOGRAPHIC**  
**MAP**

**08 29 05**  
 MONTH DAY YEAR

SCALE: 1" = 2000' DRAWN BY: C.H. REVISED: 00-00-00







**APPROXIMATE TOTAL PIPELINE DISTANCE = 4800' +/-**

**LEGEND:**

- PROPOSED ACCESS ROAD
- EXISTING PIPELINE
- - - - PROPOSED PIPELINE



**Uintah Engineering & Land Surveying**  
85 South 200 East Vernal, Utah 84078  
(435) 789-1017 \* FAX (435) 789-1813



**THE HOUSTON EXPLORATION COMPANY**

**NORTH HORSESHOE #12-7-6-22**  
**SECTION 7, T6S, R22E, S.L.B.&M.**  
**2010' FSL 595' FWL**

**TOPOGRAPHIC  
MAP**

**08 29 05**  
MONTH DAY YEAR

SCALE: 1" = 1000' DRAWN BY: C.H. REVISED: 00-00-00

**D  
TOPO**



**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐  
(highlight changes)

|   |  |  |  |   |  |  |  |
|---|--|--|--|---|--|--|--|
| <b>APPLICATION FOR PERMIT TO DRILL</b>  |  |  |  | 5. MINERAL LEASE NO:<br><b>ML-47969</b> |  | 6. SURFACE:<br>State   |  |
| 1A. TYPE OF WORK: <b>DRILL</b> <input checked="" type="checkbox"/> <b>REENTER</b> <input type="checkbox"/> <b>DEEPEN</b> <input type="checkbox"/>   |  |  |  |   |  | 7. IF INDIAN, ALLOTTEE OR TRIBE NAME:  |  |
| B. TYPE OF WELL: <b>OIL</b> <input type="checkbox"/> <b>GAS</b> <input checked="" type="checkbox"/> <b>OTHER</b> _____ <b>SINGLE ZONE</b> <input type="checkbox"/> <b>MULTIPLE ZONE</b> <input checked="" type="checkbox"/> |  |  |  |   |  | 8. UNIT or CA AGREEMENT NAME:  |  |
| 2. NAME OF OPERATOR:<br><b>The Houston Exploration Company</b>  |  |  |  |   |  | 9. WELL NAME and NUMBER:<br><b>North Horseshoe 12-7-6-22</b>                   |  |
| 3. ADDRESS OF OPERATOR:<br><b>1100 Louisiana Suite 20</b> CITY <b>Houston</b> STATE <b>TX</b> ZIP <b>77002</b>  |  |  |  | PHONE NUMBER:<br><b>(713) 830-6800</b>  |  | 10. FIELD AND POOL, OR WILDCAT:<br><b>Undesignated Wildcat</b>                 |  |
| 4. LOCATION OF WELL (FOOTAGES)<br><br>AT SURFACE: <b>2010' FSL &amp; 595' FWL</b> <b>628087 X</b> <b>40, 311718</b><br>AT PROPOSED PRODUCING ZONE: <b>same as above</b> <b>4463235 Y</b> <b>-109, 492635</b>                |  |  |  |   |  | 11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:<br><b>NWSW 7    6S    22E</b> |  |
| 14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE:<br><b>23.8 miles south of Vernal, UT</b>  |  |  |  |   |  | 12. COUNTY:<br><b>Uintah</b>   |  |
|   |  |  |  |   |  | 13. STATE:<br><b>UTAH</b>  |  |
| 15. DISTANCE TO NEAREST PROPERTY OR LEASE LINE (FEET)<br><b>595'</b>  |  |  | 16. NUMBER OF ACRES IN LEASE:<br><b>2,240</b>              |   |  | 17. NUMBER OF ACRES ASSIGNED TO THIS WELL:<br><b>40</b>                        |  |
| 18. DISTANCE TO NEAREST WELL (DRILLING, COMPLETED, OR APPLIED FOR) ON THIS LEASE (FEET)<br><b>N/A</b>   |  |  | 19. PROPOSED DEPTH:<br><b>9,628</b>                        |   |  | 20. BOND DESCRIPTION:<br><b>104155044</b>                                      |  |
| 21. ELEVATIONS (SHOW WHETHER DF, RT, GR, ETC.):<br><b>4,766 GR</b>  |  |  | 22. APPROXIMATE DATE WORK WILL START:<br><b>11/15/2005</b> |   |  | 23. ESTIMATED DURATION:<br><b>30 Days</b>                                      |  |

**24. PROPOSED CASING AND CEMENTING PROGRAM**

| SIZE OF HOLE | CASING SIZE, GRADE, AND WEIGHT PER FOOT | SETTING DEPTH | CEMENT TYPE, QUANTITY, YIELD, AND SLURRY WEIGHT    |
|--------------|---|---------------|--|
| 11"          | 8 5/8"    J-55    36#                   | 2,000         | PREMIUM LITE II    250 SKS    3.38 CF    1'        |
|              |   |               | CLASS "G"    329 SKS    1.2 CF    15.6 PPG         |
|              |   |               | Calcium Chloride    200 SKS    1.10 CF    15.6 PPG |
| 7 7/8"       | 4 1/2"    N-80    11.6#                 | 9,401         | PREMIUM LITE II    200 SKS    3.3 CF    11.0 PPG   |
|              |   |               | CLASS "G"    400 SKS    1.56 CF    14.3 PPG        |
|              |   |               |  |
|              |   |               |  |
|              |   |               |  |

**25. ATTACHMENTS**

VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES:

- ☒ WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER
- ☒ EVIDENCE OF DIVISION OF WATER RIGHTS APPROVAL FOR USE OF WATER

- ☒ COMPLETE DRILLING PLAN
- ☐ FORM 5, IF OPERATOR IS PERSON OR COMPANY OTHER THAN THE LEASE OWNER

CONFIDENTIAL

NAME (PLEASE PRINT) William A. Ryan    TITLE Agent

SIGNATURE William A. Ryan    DATE 11-14-05

(This space for State use only)

API NUMBER ASSIGNED: 43 047 37392

APPROVAL:

**RECEIVED**  
**NOV 17 2005**  
DIV. OF OIL, GAS & MINING

R  
21  
ER  
22  
E

T6S, R22E, S.L.B.&amp;M.

EAST - 5272.08' (G.L.O.)

N00°02'W - 2644.62' (G.L.O.)

N00°00'43"E - 2643.36' (Meas.)

NORTH - 5280.00' (G.L.O.)

1920 Brass Cap  
0.5' High, 2.0'  
SELY of N-W  
Fence Corner1920 Brass Cap  
1.4' High, Pile  
of Stones

595'

NORTH HORSESHOE #12-7-6-22

Elev. Ungraded Ground = 4767'

2010'

LOT 13

LOT 14

LOT 11

LOT 12

GREEN RIVER

S88°21'55"W - 5318.85' (Meas.)

Brass Cap

## BASIS OF BEARINGS

BASIS OF BEARINGS IS A G.P.S. OBSERVATION.

(AUTONOMOUS NAD 83)

LATITUDE = 40°18'41.66" (40.311572)

LONGITUDE = 109°29'35.74" (109.493261)

(AUTONOMOUS NAD 27)

LATITUDE = 40°18'41.80" (40.311611)

LONGITUDE = 109°29'33.26" (109.492572)

## LEGEND:

└─┘ = 90° SYMBOL

● = PROPOSED WELL HEAD.

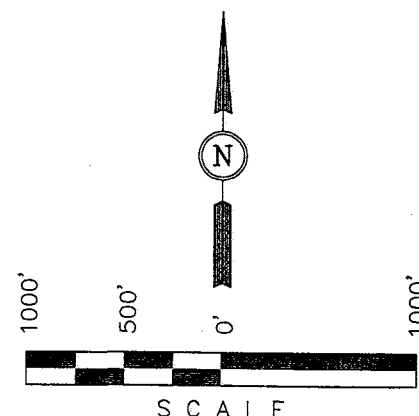
▲ = SECTION CORNERS LOCATED.

## THE HOUSTON EXPLORATION COMPANY

Well location, NORTH HORSESHOE #12-7-6-22,  
located as shown in the NW 1/4 SW 1/4 of  
Section 7, T6S, R22E, S.L.B.&M. Uintah County,  
Utah.

## BASIS OF ELEVATION

SPOT ELEVATION AT A HILLTOP LOCATED IN THE SW 1/4 OF  
SECTION 11, T6S, R22E, S.L.B.&M. TAKEN FROM THE  
RASMUSSEN HOLLOW QUADRANGLE, UTAH, UTAH COUNTY,  
7.5 MINUTE SERIES (TOPOGRAPHICAL MAP) PUBLISHED BY  
THE UNITED STATES DEPARTMENT OF THE INTERIOR,  
GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING  
4993 FEET.



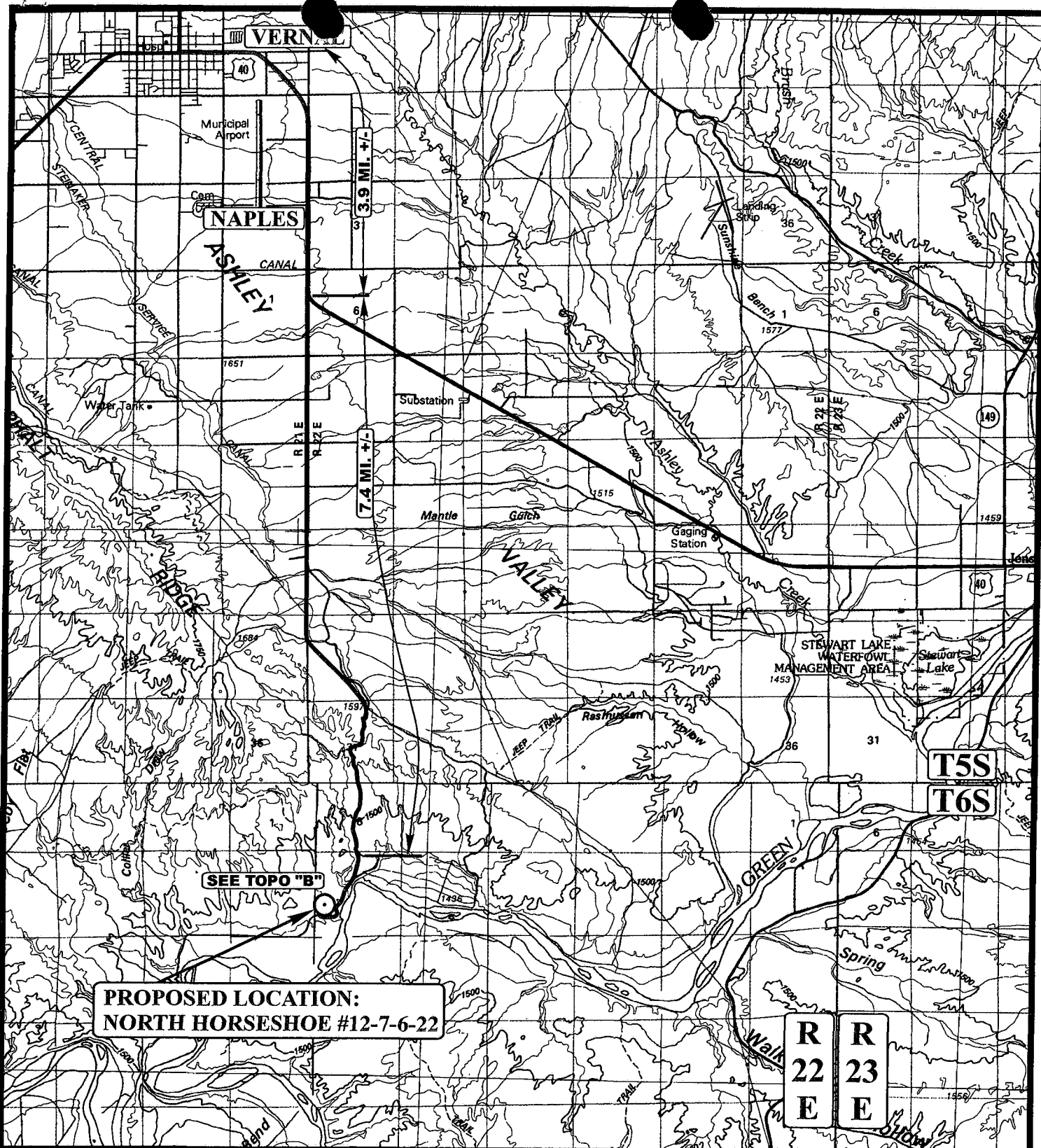
## CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM  
FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY  
SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE  
BEST OF MY KNOWLEDGE AND BELIEF.

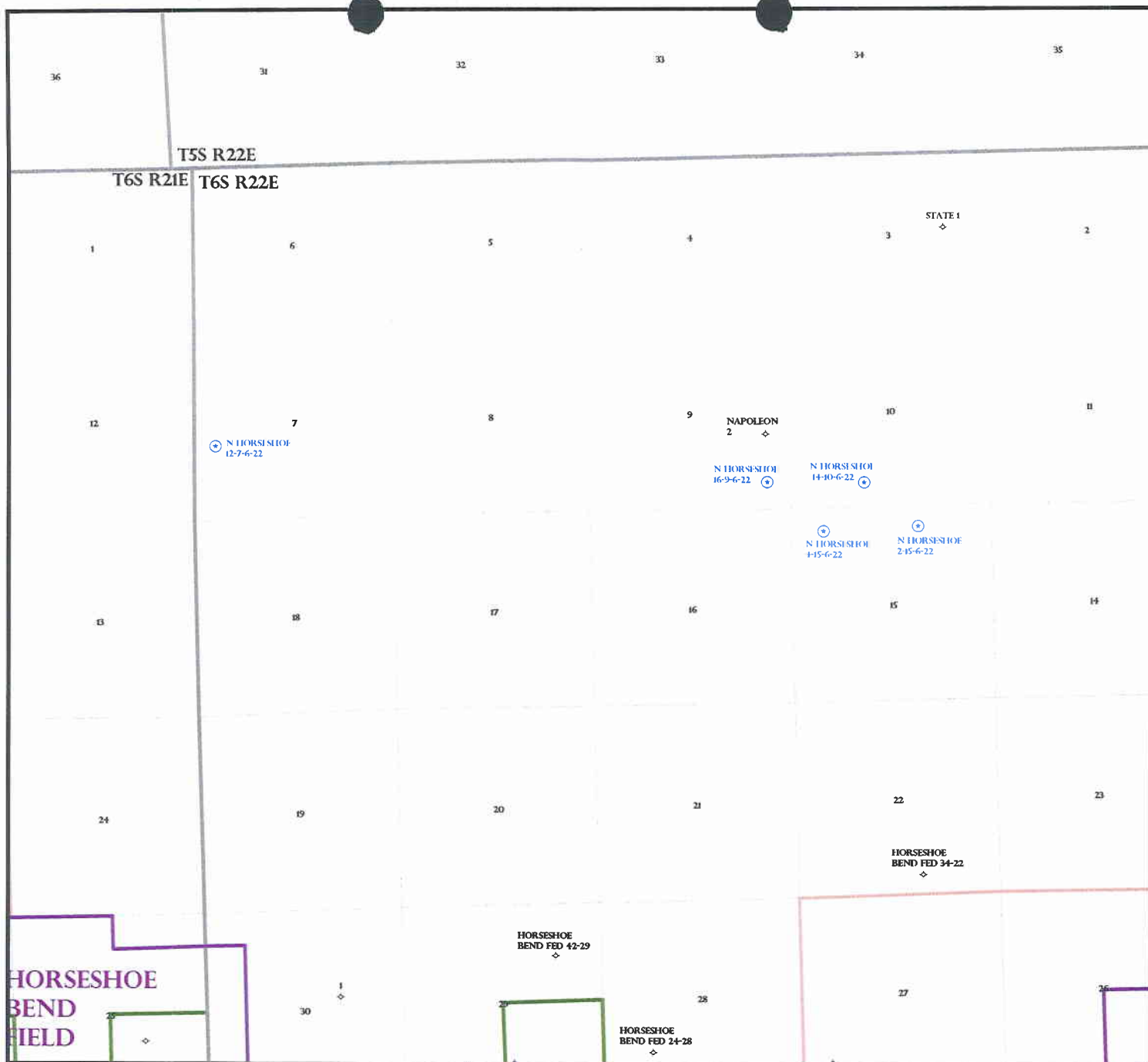
REGISTERED LAND SURVEYOR  
REGISTRATION NO. 161319  
STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING  
85 SOUTH 200 EAST - VERNAL, UTAH 84078  
(435) 789-1017

|                         |  |                         |
|-------------------------|--|-------------------------|
| SCALE<br>1" = 1000'     | DATE SURVEYED:<br>08-22-05                 | DATE DRAWN:<br>08-24-05 |
| PARTY<br>N.H. D.S. P.M. | REFERENCES<br>G.L.O. PLAT                  |                         |
| WEATHER<br>WARM         | FILE<br>THE HOUSTON<br>EXPLORATION COMPANY |                         |



1. Spacing SAP
2. STATEMENT OF BASIS



OPERATOR: THE HOUSTON EXPL CO (N2525)

SEC: 7,9,10,15 T. 9S R. 16E  
22

FIELD: WILDCAT (001)

COUNTY: UINTAH

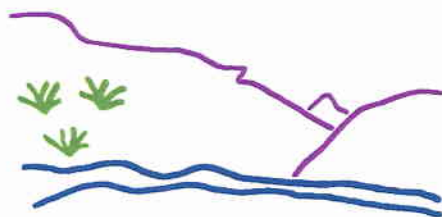
SPACING: R649-3-2 / GENERAL SITING

**Field Status**  
 [Black Box] ABANDONED  
 [Purple Box] ACTIVE  
 [Pink Box] COMBINED  
 [Blue Box] INACTIVE  
 [Light Blue Box] PROPOSED  
 [Red Box] STORAGE  
 [White Box] TERMINATED

**Unit Status**  
 [White Box] EXPLORATORY  
 [Light Green Box] GAS STORAGE  
 [Light Blue Box] NF PP OIL  
 [Light Blue Box] NF SECONDARY  
 [Light Blue Box] PENDING  
 [Green Box] PI OIL  
 [Red Box] PP GAS  
 [Green Box] PP GEOTHERML  
 [Green Box] PP OIL  
 [Light Blue Box] SECONDARY  
 [White Box] TERMINATED

**Wells Status**

[Red Star] GAS INJECTION  
 [Red Star] GAS STORAGE  
 [X] LOCATION ABANDONED  
 [Blue Circle] NEW LOCATION  
 [Diamond] PLUGGED & ABANDONED  
 [Red Star] PRODUCING GAS  
 [Green Circle] PRODUCING OIL  
 [Red Star] SHUT-IN GAS  
 [Green Circle] SHUT-IN OIL  
 [X] TEMP. ABANDONED  
 [Blue Circle] TEST WELL  
 [Blue Triangle] WATER INJECTION  
 [Blue Circle] WATER SUPPLY  
 [Blue Circle] WATER DISPOSAL  
 [Red Star] DRILLING



*Utah Oil Gas and Mining*



PREPARED BY: DIANA WHITNEY  
 DATE: 18-NOVEMBER-2005

**DIVISION OF OIL, GAS AND MINING  
APPLICATION FOR PERMIT TO DRILL  
STATEMENT OF BASIS**

**OPERATOR:** THE HOUSTON EXPLORATION COMPANY  
**WELL NAME & NUMBER:** NORTH HORSESHOE 12-7-6-22  
**API NUMBER:** 43-047-37392  
**LOCATION:** 1/4,1/4 NW/SW sec: 7 TWP: 6S RNG: 22E, 2010 FSL 595 FWL

**Geology/Ground Water:**

The Houston Ex. Co. proposes to set 2000 feet of surface casing cemented to the surface. The base of the moderately saline water is estimated at 4,700 feet. A search of Division of Water Rights records shows six water wells within a 10,000 foot radius of the proposed location. These wells are approximately .5 miles to 1.5 miles from the proposed well. The wells range from 20 feet to 300 feet in depth. The use is listed as industrial, domestic and stock watering. These wells probably produce mostly from alluvium associated with the Green River. The surface formation at this location is the Uinta Formation and alluvium derived from the Uinta Formation. The Uinta Formation is made up of discontinuous sands interbedded with shales and are not expected to produce prolific aquifers. The proposed surface casing should adequately protect any near surface aquifers.

**Reviewer:** Brad Hill **Date:** 12-06-05

**Surface:**

The predrill investigation of the surface was performed on 11/29/05. Ben Williams with UDWR and Jim Davis with SITLA were invited to this investigation by email on 11/22/05. Both were present.

Mr. Williams representing the UDWR stated the area is classified as high value yearlong habitat for antelope and limited value yearlong habitat for deer. He did not recommend any restriction periods or actions to the Operator or SITLA for these species. He stated no other wildlife species are expected to be significantly affected. Mr. Williams also gave Ms. Stringham and Mr. Davis a UDWR recommended seed mix to be used when reserve pit and location are reclaimed.

The location is in a drainage about .03 miles upslope from the Green River floodplain. Proper installation and maintenance of a liner in the reserve pit is essential during drilling operations.  
This site is on State surface, with State minerals, and appears to be the best site for a location in the immediate area.

**Reviewer:** Floyd Bartlett **Date:** 11/30/05

**Conditions of Approval/Application for Permit to Drill:**

1. A synthetic liner with a minimum thickness of 16 mils and a felt subliner shall be properly installed and maintained in the reserve pit.

**ON-SITE PREDRILL EVALUATION**  
**Division of Oil, Gas and Mining**

OPERATOR: THE HOUSTON EXPLORATION COMPANY

WELL NAME & NUMBER: NORTH HORSESHOE 12-7-6-22

API NUMBER: 43-047-37392

LEASE: ML-47969 FIELD/UNIT: WILDCAT

LOCATION: 1/4, 1/4 NW/SW sec: 7 TWP: 6S RNG: 22E, 2010 FSL 595 FWL

LEGAL WELL SITING: 460 F SEC. LINE; 460 F 1/4, 1/4 LINE; 920 F ANOTHER WELL.

GPS COORD (UTM): 628087 E 4463235 N SURFACE OWNER: STATE OF UTAH

**PARTICIPANTS**

Floyd Bartlett (DOGM), Ginger Stringham (HOUSTON), Ben Williams (UDWR)  
Corey Stubbs (Stubbs & Stubbs Construction), Jim Davis, (SITLA).

**REGIONAL/LOCAL SETTING & TOPOGRAPHY**

The proposed North Horseshoe 12-7-6-22 well lies in a small draw approximately 0.4 miles north of the Green River and 3/4 miles west of State Highway 45 and its bridge across the Green River. The draw runs about 3 miles northerly where it heads under the south slopes of Asphalt Ridge. The terrain in the area is broken with numerous draws separated by poorly vegetated and often steep ridges. Only perennial water in the area is in the Green River.

The location lies about 11.3 miles south of Vernal, Ut and is accessed by State Highway 45, the Horseshoe Bend Uintah County road and an 0.4 miles of existing low standard road which will be reconstructed.

**SURFACE USE PLAN**

CURRENT SURFACE USE: wildlife, winter cattle grazing and hunting.

PROPOSED SURFACE DISTURBANCE: Up-grading of 0.4 miles of low standard road including a short section of new construction and construction of a well location 345'x 210' plus reserve pit and soil stockpile storage outside the described area.

LOCATION OF EXISTING WELLS WITHIN A 1 MILE RADIUS: None shown on attached 'TOPO C" map from GIS database.

LOCATION OF PRODUCTION FACILITIES AND PIPELINES: All production facilities will be on location and added after drilling well. Pipeline will follow the edge of the access road approximately 4,800 feet to a tie-in point near the Green River Bridge..

SOURCE OF CONSTRUCTION MATERIAL: All construction material will be borrowed from site during construction of location.

ANCILLARY FACILITIES: None will be required.

WILL DRILLING AT THIS LOCATION GENERATE PUBLIC INTEREST OR CONCERNS?  
EXPLAIN: Unlikely. Oilfield activity is common in the area. The location is not within the Green River floodplain.

## WASTE MANAGEMENT PLAN:

Drilled cuttings will be settled into reserve pit. Liquids from pit will be allowed to evaporate. Formation water will be confined to storage tanks. Commercial contractor will handle sewage facilities, storage and disposal. Trash will be contained in trash baskets and hauled to an approved land fill.

## ENVIRONMENTAL PARAMETERS

AFFECTED FLOODPLAINS AND/OR WETLANDS: None. The Green River floodplain is approximately .3 miles to the south.

FLORA/FAUNA: Vegetation is dominated by cheat grass. Russian thistle, halogeton, shadscale, ephedra, globe mallow, big sage brush, Indian ricegrass and annual mustard also exist. Dominant fauna is pronghorn, rodents, songbirds, raptors, deer, bobcat, coyote.

SOIL TYPE AND CHARACTERISTICS: Deep gravel with sediment deposited in the bottom of the draw.

EROSION/SEDIMENTATION/STABILITY: No stability problems are anticipated with the construction and operation of the location. An active gulley intersects the west side of the proposed location. It is planned to be rerouted west around the location. A culvert is planned to cross this drainage if needed.

PALEONTOLOGICAL POTENTIAL: none sited.

## RESERVE PIT

CHARACTERISTICS: 150' by 75' and 12' deep. The reserve pit is planned in an area of cut on the north east side of the location. No stabilization problems are expected.

LINER REQUIREMENTS (Site Ranking Form attached): A liner will be required for reserve pit. Sensitivity score of 25, rating as Level I, Highly Sensitive. Operator routinely installs a 16 mil. liner in all reserve pits.

## SURFACE RESTORATION/RECLAMATION PLAN

AS PER SITLA.

SURFACE AGREEMENT: AS PER SITLA.

CULTURAL RESOURCES/ARCHAEOLOGY: Site was inspected by Sagebrush Archeological Consultants on 11/5/2005. A report of this investigation will be placed in the file.

## OTHER OBSERVATIONS/COMMENTS

Ben Williams representing the UDWR stated the area is classified as high



value yearlong habitat for antelope and limited value yearlong habitat  
for deer. He did not recommend any restrictions to the Operator or  
SITLA.

ATTACHMENTS

Photos of site have been taken and placed on file.

Floyd Bartlett  
DOGM REPRESENTATIVE

11/29/2005 11:45 AM  
DATE/TIME

**Evaluation Ranking Criteria and Ranking Score  
For Reserve and Onsite Pit Liner Requirements**

| <u>Site-Specific Factors</u>                            | <u>Ranking</u> | <u>Site Ranking</u> |
|---|----------------|---------------------|
| Distance to Groundwater (feet)                          |                |                     |
| >200  | 0              |                     |
| 100 to 200  | 5              |                     |
| 75 to 100   | 10             |                     |
| 25 to 75  | 15             | <u>0</u>            |
| <25 or recharge area                                    | 20             |                     |
| Distance to Surf. Water (feet)                          |                |                     |
| >1000   | 0              |                     |
| 300 to 1000   | 2              |                     |
| 200 to 300  | 10             |                     |
| 100 to 200  | 15             |                     |
| < 100   | 20             | <u>0</u>            |
| Distance to Nearest Municipal Well (feet)               |                |                     |
| >5280   | 0              |                     |
| 1320 to 5280  | 5              |                     |
| 500 to 1320   | 10             |                     |
| <500  | 20             | <u>0</u>            |
| Distance to Other Wells (feet)                          |                |                     |
| >1320   | 0              |                     |
| 300 to 1320   | 10             |                     |
| <300  | 20             | <u>0</u>            |
| Native Soil Type  |                |                     |
| Low permeability  | 0              |                     |
| Mod. permeability                                       | 10             |                     |
| High permeability                                       | 20             | <u>20</u>           |
| Fluid Type  |                |                     |
| Air/mist  | 0              |                     |
| Fresh Water   | 5              |                     |
| TDS >5000 and <10000                                    | 10             |                     |
| TDS >10000 or Oil Base Mud Fluid                        | 15             |                     |
| containing significant levels of hazardous constituents | 20             | <u>5</u>            |
| Drill Cuttings  |                |                     |
| Normal Rock   | 0              |                     |
| Salt or detrimental                                     | 10             | <u>0</u>            |
| Annual Precipitation (inches)                           |                |                     |
| <10   | 0              |                     |
| 10 to 20  | 5              |                     |
| >20   | 10             | <u>0</u>            |
| Affected Populations                                    |                |                     |
| <10   | 0              |                     |
| 10 to 30  | 6              |                     |
| 30 to 50  | 8              |                     |
| >50   | 10             | <u>0</u>            |
| Presence of Nearby Utility Conduits                     |                |                     |
| Not Present   | 0              |                     |
| Unknown   | 10             |                     |
| Present   | 15             | <u>0</u>            |

**Final Score**      25      (Level I Sensitivity)

Sensitivity Level I = 20 or more; total containment is required.

Sensitivity Level II = 15-19; lining is discretionary.

Sensitivity Level III = below 15; no specific lining is required.



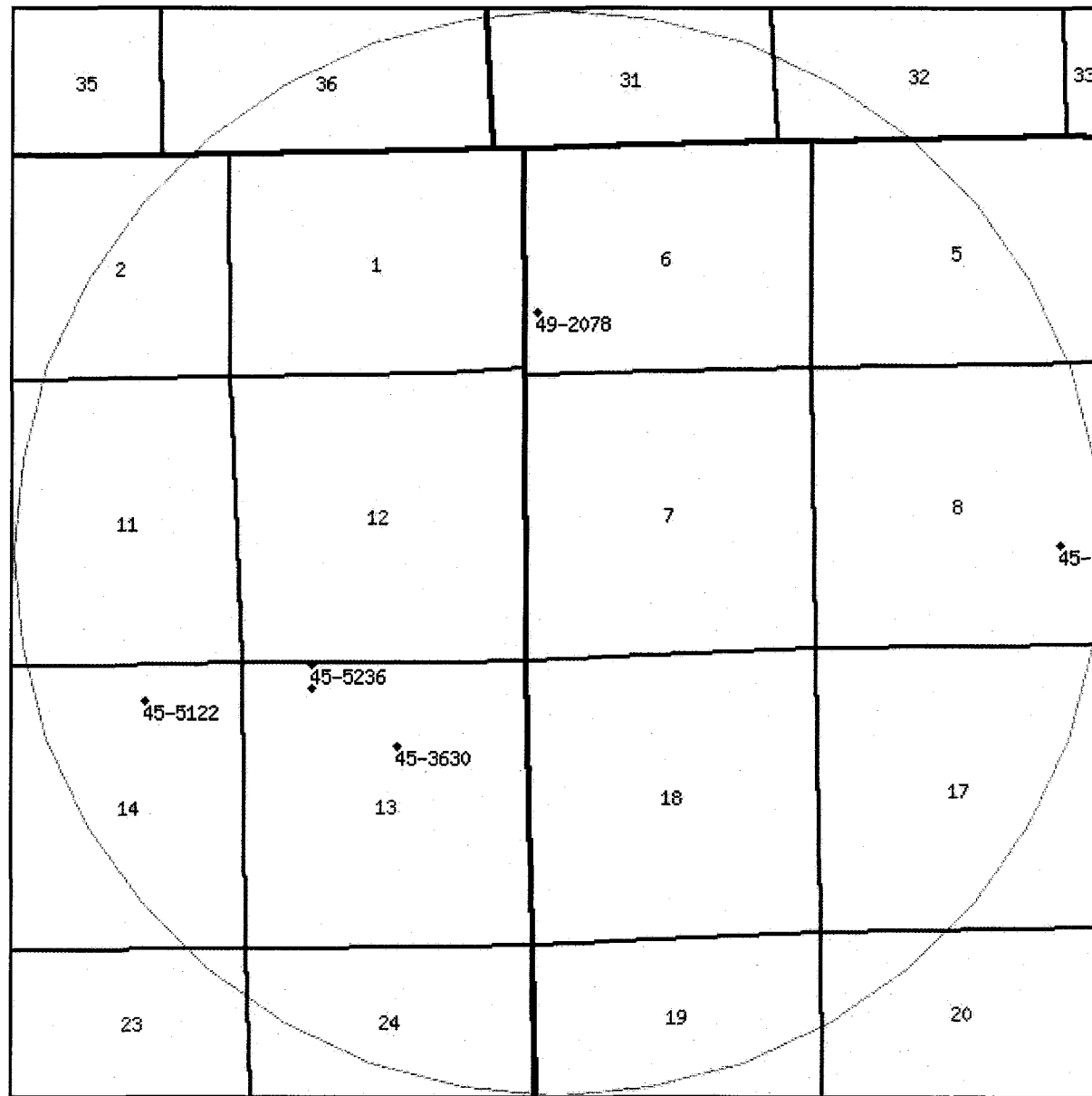




## WRPLAT Program Output Listing

Version: 2004.12.30.00      Rundate: 12/06/2005 12:56 PM

Radius search of 10000 feet from a point N2010 E595 from the SW corner, section 07, Township 6S, Range 22E, SL b&m  
Criteria:wrtypes=W,C,E podtypes=U status=U,A,P usetypes=all




0 1300 2600 3900 5200 ft

## Water Rights

| WR Number      | Diversion Type/Location                       | Well Log             | Status | Priority | Uses | CFS   | ACFT  | Owner Name  |
|----------------|---|----------------------|--------|----------|------|-------|-------|---|
| <u>45-3630</u> | Underground<br>S1550 W2380 NE 13<br>6S 21E SL |                      | P      | 19750418 | DIS  | 0.015 | 0.000 | NED B. MITCHELL<br>CONSTRUCTION INC.<br><br>P.O. BOX 186                  |
| <u>45-4516</u> | Underground<br>S775 W775 E4 08 6S<br>22E SL   | <u>well<br/>info</u> | P      | 19800422 | DIS  | 0.015 | 0.000 | TODD R., SUSAN F., RICKY T. &<br>CHRISTINA M. THACKER<br><br>P.O. BOX 876 |
| <u>45-4877</u> | Underground<br>S475 E1270 NW 13 6S<br>21E SL  |                      | P      | 19810819 | DIS  | 0.015 | 0.000 | L. J. CUMMINGS<br><br>5164 SOUTH 2000 WEST                                |
| <u>45-5051</u> | Underground<br>S30 E1274 NW 13 6S<br>21E SL   |                      | P      | 19820809 | DIS  | 0.015 | 0.000 | BOYD AND GEORGIA CHAMPION<br><br>1933 WEST HORSESHOE BEND                 |
| <u>45-5122</u> | Underground<br>S715 W1799 NE 14 6S<br>21E SL  |                      | P      | 19831227 | DIS  | 0.007 | 1.562 | GARN & EDNA MASSEY<br>2375 WEST HORSESHOE BEND<br>ROAD                    |
| <u>45-5236</u> | Underground<br>S30 E1274 NW 13 6S<br>21E SL   |                      | P      | 19860317 | DIS  | 0.015 | 0.000 | FLORENCE L. & DONALD E.<br>CULLUM<br><br>1901 WEST HORSESHOE BEND         |
| <u>49-2078</u> | Underground<br>N1150 E230 SW 06 6S<br>22E SL  |                      | P      | 19510426 | DI   | 0.200 | 0.000 | CHEVRON OIL COMPANY<br><br>P.O. BOX 780                                   |

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**STATE ACTIONS**  
**Resource Development Coordinating Committee**  
**Governor's Office of Planning and Budget**  
**5110 State Office Building**  
**SLC, UT 84114**  
**Phone No. 537-9230**

|   |   |
|---|---|
| <b>1. State Agency</b><br>Oil, Gas and Mining<br>1594 West North Temple, Suite 1210<br>Salt Lake City, UT 84114-5801  | <b>2. Approximate date project will start:</b><br><br>Upon Approval or December 2, 2005   |
| <b>3. Title of proposed action:</b><br>Application for Permit to Drill  |   |
| <b>4. Description of Project:</b><br><br>The Houston Exploration Company proposes to drill the North Horseshoe 12-7-6-22 well (wildcat) on a State lease ML-47969, Uintah County, Utah. This action is being presented to the RDCC for consideration of resource issues affecting state interests. The Division of Oil, Gas and Mining is the primary administrative agency in this action and must issue approval before operations commence.  |   |
| <b>5. Location and detailed map of land affected (site location map required, electronic GIS map preferred)</b><br>(include UTM coordinates where possible) (indicate county)<br>2010' FSL 595' FWL, NW/4 SW/4,<br>Section 7, Township 6 South, Range 22 East, Uintah County, Utah  |   |
| <b>6. Possible significant impacts likely to occur:</b><br>Surface impacts include up to five acres of surface disturbance during the drilling and completion phase (estimated for five weeks duration). If oil and gas in commercial quantities is discovered, the location will be reclaimed back to a net disturbance of between one and two acres – not including road, pipeline, or utility infrastructure. If no oil or gas is discovered, the location will be completely reclaimed. |   |
| <b>7. Identify local government affected</b><br>a. Has the government been contacted? No.<br>b. When?<br>c. What was the response?<br>d. If no response, how is the local government(s) likely to be impacted?  |   |
| <b>8. For acquisitions of land or interests in land by DWR or State Parks please identify state representative and state senator for the project area. Name and phone number of state representative, state senator near project site, if applicable:</b><br>a. Has the representative and senator been contacted? N/A  |   |
| <b>9. Areawide clearinghouse(s) receiving state action:</b> (to be sent out by agency in block 1)<br>Uintah Basin Association of Governments  |   |
| <b>10. For further information, contact:</b><br><br><br><br><br><b>Diana Whitney</b><br><b>Phone:</b> (801) 538-5312  | <b>11. Signature and title of authorized officer</b><br><br><br><b>Gil Hunt, Associate Director</b><br><b>Date:</b> November 18, 2005 |



Casing Schematic

Uinta

Surface

TOC @ 0.

8-5/8"  
MW 8.4  
Frac 19.3

Surface  
2000. MD

1233 TOC Tail

✓ w/18% Washout

BHP

$$(0.052)(9628)(10) = 5006$$

Anticipate < 3,000

G<sub>100</sub>

$$(0.12)(9628) = 1155$$

MASP = 3851

Fluid

$$(0.22)(9628) = 2118$$

MASP = 2888

BORE - 3,000 ✓

Surf csg - 4460

TOG = 3122

Mat pressure @ Surf csg shoe = 3328

Test to 3100 # ✓

✓ Adequate DND 1/20/06

4-1/2"  
MW 10.

TOC @ 3178.

✓ propose TOC ± 2500'

3828 Green River

4700 Bmsw

7028 Wasatch

✓ w/15% Washout  
TOC 2534' w/11% Washout

7234 TOC Tail

Production  
9628. MD

- Mesaverde

Well name:

**01-06 Houston N Horseshoe 12-7-6-22**Operator: **Houston Exploration Company**String type: **Surface**

Project ID:

**43-047-37392**Location: **Uintah County****Design parameters:****Collapse**Mud weight: 8.400 ppg  
Design is based on evacuated pipe.**Minimum design factors:****Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**H2S considered? No  
Surface temperature: 65 °F  
Bottom hole temperature: 93 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 250 ft

Cement top: Surface

**Burst**Max anticipated surface  
pressure: 1,760 psi  
Internal gradient: 0.120 psi/ft  
Calculated BHP 2,000 psi

No backup mud specified.

**Tension:**8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.50 (B)Tension is based on buoyed weight.  
Neutral point: 1,749 ft

Non-directional string.

**Re subsequent strings:**Next setting depth: 9,628 ft  
Next mud weight: 10.000 ppg  
Next setting BHP: 5,002 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 2,000 ft  
Injection pressure 2,000 psi

| Run<br>Seq | Segment<br>Length<br>(ft) | Size<br>(in)                  | Nominal<br>Weight<br>(lbs/ft) | Grade                  | End<br>Finish              | True Vert<br>Depth<br>(ft) | Measured<br>Depth<br>(ft) | Drift<br>Diameter<br>(in)     | Internal<br>Capacity<br>(ft³) |
|------------|---------------------------|-------------------------------|-------------------------------|------------------------|----------------------------|----------------------------|---------------------------|-------------------------------|-------------------------------|
| 1          | 2000                      | 8.625                         | 36.00                         | J-55                   | ST&C                       | 2000                       | 2000                      | 7.7                           | 143.6                         |
| Run<br>Seq | Collapse<br>Load<br>(psi) | Collapse<br>Strength<br>(psi) | Collapse<br>Design<br>Factor  | Burst<br>Load<br>(psi) | Burst<br>Strength<br>(psi) | Burst<br>Design<br>Factor  | Tension<br>Load<br>(Kips) | Tension<br>Strength<br>(Kips) | Tension<br>Design<br>Factor   |
| 1          | 873                       | 3450                          | 3.953                         | 2000                   | 4460                       | 2.23                       | 63                        | 434                           | 6.89 J                        |

Prepared by: Clinton Dworshak  
Utah Div. of Oil & MiningPhone: 801-538-5280  
FAX: 810-359-3940Date: January 19, 2006  
Salt Lake City, Utah**Remarks:**

Collapse is based on a vertical depth of 2000 ft, a mud weight of 8.4 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop &amp; Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

*Engineering responsibility for use of this design will be that of the purchaser.*

|              |  |                             |
|--------------|--|-----------------------------|
| Well name:   | <b>01-06 Houston N Horseshoe 12-7-6-22</b> |                             |
| Operator:    | <b>Houston Exploration Company</b>         |                             |
| String type: | Production                                 | Project ID:<br>43-047-37392 |
| Location:    | Uintah County                              |                             |

**Design parameters:**
**Collapse**

Mud weight: 10.000 ppg  
Design is based on evacuated pipe.

**Minimum design factors:**
**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 65 °F  
Bottom hole temperature: 200 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 1,500 ft

Cement top: 3,178 ft

**Burst**

Max anticipated surface pressure: 3,846 psi  
Internal gradient: 0.120 psi/ft  
Calculated BHP 5,002 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.50 (B)

Non-directional string.

Tension is based on buoyed weight.  
Neutral point: 8,189 ft

| Run Seq | Segment Length (ft) | Size (in) | Nominal Weight (lbs/ft) | Grade | End Finish | True Vert Depth (ft) | Measured Depth (ft) | Drift Diameter (in) | Internal Capacity (ft³) |
|---------|---------------------|-----------|-------------------------|-------|------------|----------------------|---------------------|---------------------|-------------------------|
| 1       | 9628                | 4.5       | 11.60                   | N-80  | LT&C       | 9628                 | 9628                | 3.875               | 223.2                   |

| Run Seq | Collapse Load (psi) | Collapse Strength (psi) | Collapse Design Factor | Burst Load (psi) | Burst Strength (psi) | Burst Design Factor | Tension Load (Kips) | Tension Strength (Kips) | Tension Design Factor |
|---------|---------------------|-------------------------|------------------------|------------------|----------------------|---------------------|---------------------|-------------------------|-----------------------|
| 1       | 5002                | 6350                    | 1.270                  | 5002             | 7780                 | 1.56                | 95                  | 223                     | 2.35 J                |

Prepared by: Clinton Dworshak  
Utah Div. of Oil & Mining

Phone: 801-538-5280  
FAX: 810-359-3940

Date: January 19, 2006  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 9628 ft, a mud weight of 10 ppg. The casing is considered to be evacuated for collapse purposes.  
Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

*Engineering responsibility for use of this design will be that of the purchaser.*

**From:** Robert Clark  
**To:** Whitney, Diana  
**Date:** 11/28/2005 9:17:07 AM  
**Subject:** RDCC short turn around responses

The following comments are being submitted directly to DOG&M due to their short turn around status.

The following comments are submitted for **RDCC #5944-5949**. The comments pertain to all projects.

**Comments begin:** The proposed *North Horseshoe 12-7-6-22, 16-9-6-22, 14-10-6-22, 2-15-6-22, 4-15-6-22, and 3-16-6-21* well drilling projects in Uintah County may require a permit, known as an Approval Order, from the Utah Division of Air Quality if any compressor stations are constructed at the site. A permit application, known as a Notice of Intent (NOI), should be submitted to the Executive Secretary at the Utah Division of Air Quality at 150 N. 1950 West, SLC, UT, 84116 for review according to the Utah Air Quality Rule R307-401. Permit: Notice of Intent and Approval Order. The proposed project is also subject to Utah Air Quality Rule R307-205-3, Fugitive Dust, due to the fugitive dust that is generated during the excavating phases of the project. These rules apply to construction activities that disturb an area greater than 1/4 acre in size. A permit, known as an Approval Order, is not required from the Division of Air Quality, but steps need to be taken to minimize fugitive dust, such as, watering and/or chemical stabilization, providing vegetative or synthetic cover and windbreaks. A copy of the rules may be found at [www.rules.utah.gov/publicat/code/r307/r307.htm](http://www.rules.utah.gov/publicat/code/r307/r307.htm). **Comments end.**

The following comments are submitted for **RDCC #5950-5952**. The comments pertain to all projects.

**Comments begin:** The proposed *Thurston 5-15-9-24, 13-29-9-24, and 10-15-9-24* well drilling projects in Uintah County may require a permit, known as an Approval Order, from the Utah Division of Air Quality if any compressor stations are constructed at the site. A permit application, known as a Notice of Intent (NOI), should be submitted to the Executive Secretary at the Utah Division of Air Quality at 150 N. 1950 West, SLC, UT, 84116 for review according to the Utah Air Quality Rule R307-401. Permit: Notice of Intent and Approval Order. The proposed project is also subject to Utah Air Quality Rule R307-205-3, Fugitive Dust, due to the fugitive dust that is generated during the excavating phases of the project. These rules apply to construction activities that disturb an area greater than 1/4 acre in size. A permit, known as an Approval Order, is not required from the Division of Air Quality, but steps need to be taken to minimize fugitive dust, such as, watering and/or chemical stabilization, providing vegetative or synthetic cover and windbreaks. A copy of the rules may be found at [www.rules.utah.gov/publicat/code/r307/r307.htm](http://www.rules.utah.gov/publicat/code/r307/r307.htm). **Comments end.**

Robert Clark

Division of Air Quality  
536-4435

**CC:** Mcneill, Dave; Wright, Carolyn

5944

Sponsor: Division of Oil, Gas and Mining      SLB&M: Sec. 7, T6S, R22E

Counties Affected: Uintah

Description: Application for Permit to Drill - proposal to drill a wildcat well the North Horseshoe 12-7-6-22, on a State lease ML-47969

**Description of Project:**

The Houston Exploration Company proposes to drill the North Horseshoe 12-7-6-22 well (wildcat) on a State lease ML-47969, Uintah County, Utah. This action is being presented to RDCC for consideration of resource issues affecting state interests. The Division of Oil, Gas and Mining is the primary administrative agency in this action and must issue approval before it commences.

**Comments:**

Wellpad placement disturbs soils. Vegetative and/or structural measures shall be implemented within 60 days of initial soil disturbance to prevent erosion leaving the site from exceeding the tolerable rate as determined by the local office of USDA/NRCS. Further, if vegetation surrounding the wellpad does not provide at least 60% ground cover within 60 days of creating the wellpad, engineering practices shall be implemented within 60 days to control erosion. Such measures may include mulching, use of fiber mats, cross slope trenching, contour furrows, rock dams, terracing or such other erosion control practices as are required to prevent erosion from exceeding more the tolerable rate.

Page 2

Mr. Roger Chapman

November 28, 2005

If you have any questions concerning this approval, please contact Lisha Cordova at (801) 538-5296 or Brad Hill at (801) 538-5315.

Sincerely,

Gil Hunt

Associate Director, Oil & Gas

Attachment: 2

LC:mf

cc: Dan Jarvis, Technical Services Manager  
Richard Powell, Roosevelt Office  
Uintah County Planning Office  
Jennifer Corser, Tri County Health  
Facility File

**From:** Ed Bonner  
**To:** Whitney, Diana  
**Date:** 12/20/2005 9:54:05 AM  
**Subject:** Well Clearance

The following wells have been given cultural resource clearance by the Trust Lands Cultural Resources Group:

Enduring Resources, LLC

- Big Pack 12-21-11-2
- Big Pack 12-21-13-2
- Big Pack 12-21-24-2

EOG Resources, Inc

- Chapita Wells Unit 695-32

The Houston Exploration Company

- North Walker Hollow 2-32-6-23
- North Walker Hollow 8-32-6-23
- North Walker Hollow 10-32-6-23
- North Walker Hollow 12-32-6-23
- North Walker Hollow 16-32-6-23
- North Horseshoe 12-7-6-22
- North Horseshoe 16-9-6-22
- North Horseshoe 14-10-6-22
- North Horseshoe 2-15-6-22
- North Horseshoe 4-15-6-22

Westport Oil & Gas Company

- NBU 1022-20N
- NBU 1022-20L
- NBU 1022-20F
- NBU 1022-20D

If you have any questions regarding this matter please give me a call.

**CC:** Garrison, LaVonne; Hill, Brad; Hunt, Gil

## Clinton Dworshak - cement sks changes

---

**From:** eric bowedn <starman686@yahoo.com>  
**To:** <clintondworshak@utah.gov>  
**Date:** 1/18/2006 1:39 PM  
**Subject:** cement sks changes

---

here are the cement sks changes that you requested.

---

Yahoo! Photos – Showcase holiday pictures in hardcover  
Photo Books. You design it and we'll bind it!



# THE HOUSTON EXPLORATION COMPANY

| WELL NAME             | API                 | LEAD       | TAIL         |
|-----------------------|---------------------|------------|--------------|
|                       |                     | sks        | sks          |
| <u>NH 9-16-6-21</u>   | <u>43-047-37439</u> | <u>415</u> | <u>514</u>   |
| <u>NH 3-16-6-21</u>   | <u>43-047-37391</u> | <u>415</u> | <u>514</u>   |
| <u>NH 13-16-6-21</u>  | <u>43-047-37575</u> | <u>415</u> | <u>514</u>   |
| <u>NH 15-2-6-21</u>   | <u>43-047-37477</u> | <u>415</u> | <u>514</u>   |
| <u>NH 13-2-6-21</u>   | <u>43-047-37476</u> | <u>415</u> | <u>514</u>   |
| <br>                  |                     |            |              |
| <u>NH 11-16-6-21</u>  | <u>43-047-37441</u> | <u>499</u> | <u>515</u>   |
| <u>NH 7-16-6-21</u>   | <u>43-047-37438</u> | <u>499</u> | <u>515</u>   |
| <u>NH 1-16-6-21</u>   | <u>43-047-37442</u> | <u>499</u> | <u>515</u>   |
| <u>NH 15-16-6-21</u>  | <u>43-047-37440</u> | <u>499</u> | <u>515</u>   |
| <br>                  |                     |            |              |
| <u>NH 12-7-6-22</u>   | <u>43-047-37392</u> | <u>415</u> | <u>515</u>   |
| <u>NH 16-9-6-22</u>   | <u>43-047-37393</u> | <u>415</u> | <u>515</u>   |
| <u>NH 14-10-6-22</u>  | <u>43-047-37394</u> | <u>415</u> | <u>515</u>   |
| <u>NH 4-15-6-22</u>   | <u>43-047-37396</u> | <u>415</u> | <u>515</u>   |
| <u>NH 2-15-6-22</u>   | <u>43-047-37395</u> | <u>415</u> | <u>515</u>   |
| <br>                  |                     |            |              |
| <u>NWH 13-36-6-23</u> | <u>43-047-37463</u> | <u>357</u> | <u>526</u>   |
| <u>NWH 15-36-6-23</u> | <u>43-047-37464</u> | <u>357</u> | <u>526</u>   |
| <u>NWH 11-36-6-23</u> | <u>43-047-37462</u> | <u>357</u> | <u>526</u>   |
| <u>NWH 14-32-6-23</u> | <u>43-047-37478</u> | <u>357</u> | <u>526</u>   |
| <u>NWH 2-32-6-23</u>  | <u>43-047-37399</u> | <u>357</u> | <u>526</u>   |
| <u>NWH 8-32-6-23</u>  | <u>43-047-37401</u> | <u>357</u> | <u>526</u>   |
| <u>NWH 10-32-6-23</u> | <u>43-047-37400</u> | <u>357</u> | <u>526</u>   |
| <u>NWH 12-32-6-23</u> | <u>43-047-37397</u> | <u>357</u> | <u>526</u>   |
| <u>NWH 16-32-6-23</u> | <u>43-047-37398</u> | <u>357</u> | <u>526</u>   |
| <br>                  |                     |            |              |
| <u>G 2-2-6-19</u>     | <u>43-047-37561</u> | <u>153</u> | <u>1,050</u> |
| <u>G 16-2-6-19</u>    | <u>43-047-37562</u> | <u>153</u> | <u>1,050</u> |
| <u>G 1-2-6-19</u>     | <u>43-047-37563</u> | <u>153</u> | <u>1,050</u> |
| <u>G 3-2-6-19</u>     | <u>43-047-37568</u> | <u>153</u> | <u>1,050</u> |



**State of Utah**

**Department of  
Natural Resources**

MICHAEL R. STYLER  
*Executive Director*

**Division of  
Oil, Gas & Mining**

JOHN R. BAZA  
*Division Director*

JON M. HUNTSMAN, JR.  
*Governor*

GARY R. HERBERT  
*Lieutenant Governor*

January 23, 2006

Houston Exploration Company  
1100 Louisiana, Suite 2000  
Houston, TX 77002

Re: North Horseshoe 12-7-6-22 Well, 2010' FSL, 595' FWL, NW SW, Sec. 7,  
T. 6 South, R. 22 East, Uintah County, Utah

Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann. § 40-6-1 *et seq.*, Utah Administrative Code R649-3-1 *et seq.*, and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-047-37392.

Sincerely,

Gil Hunt  
Associate Director

pab  
Enclosures

cc: Uintah County Assessor  
SITLA

Operator: Houston Exploration Company  
Well Name & Number North Horseshoe 12-7-6-22  
API Number: 43-047-37392  
Lease: ML-47969

Location: NW SW Sec. 7 T. 6 South R. 22 East

### Conditions of Approval

1. **General**

Compliance with the requirements of Utah Admin. R. 649-1 *et seq.*, the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for Permit to Drill.

2. **Notification Requirements**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- 24 hours prior to cementing or testing casing
- 24 hours prior to testing blowout prevention equipment
- 24 hours prior to spudding the well
- within 24 hours of any emergency changes made to the approved drilling program
- prior to commencing operations to plug and abandon the well

The following are Division of Oil, Gas and Mining contacts and their work telephone numbers (please leave a voice mail message if the person is not available to take the call):

- Dan Jarvis at (801) 538-5338
- Carol Daniels at (801) 538-5284 (spud)

3. **Reporting Requirements**

All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

4. Compliance with the State of Utah Antiquities Act forbids disturbance of archeological, historical, or paleontological remains. Should archeological, historical or paleontological remains be encountered during your operations, you are required to immediately suspend all operations and immediately inform the Trust Lands Administration and the Division of State History of the discovery of such remains.

5. Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis. (Copy Attached)

6. This proposed well is located in an area for which drilling units (well spacing patterns) have not been established through an order of the Board of Oil, Gas and Mining (the "Board"). In order to avoid the possibility of waste or injury to correlative rights, the operator is requested, once the well has been drilled, completed, and has produced, to analyze geological and engineering data generated therefrom, as well as any similar data from surrounding areas if available. As soon as is practicable after completion of its analysis, and if the analysis suggests an area larger than the quarter-quarter section upon which the well is located is being drained, the operator is requested to seek an appropriate order from the Board establishing drilling and spacing units in conformance with such analysis by filing a Request for Agency Action with the Board.
7. Operator shall comply with applicable recommendations resulting from Resource Development Coordinating Committee review. Statements attached.



**State of Utah**

**Department of  
Natural Resources**

MICHAEL R. STYLER  
*Executive Director*

**Division of  
Oil, Gas & Mining**

JOHN R. BAZA  
*Division Director*

JON M. HUNTSMAN, JR.  
*Governor*

GARY R. HERBERT  
*Lieutenant Governor*

February 26, 2007

Ginger Stringham  
The Houston Exploration Co.  
1100 Louisiana, Suite 2000  
Houston, TX 77002-6800

Re: APD Rescinded –North Horseshoe 12-7-6-22 Sec. 7 T. 6 R. 22E  
Uintah County, Utah API No. 43-047-37392


Ms. Stringham:

The Application for Permit to Drill (APD) for the subject well was approved by the Division of Oil, Gas and Mining (Division) on January 23, 2006. No drilling activity at this location has been reported to the division. Therefore, approval to drill the well is hereby rescinded, effective February 26, 2007.

A new APD must be filed with this office for approval prior to the commencement of any future work on the subject location.

If any previously unreported operations have been performed on this well location, it is imperative that you notify the Division immediately.

Sincerely,

  
Diana Mason  
Environmental Scientist

cc: Well File  
SITLA, Ed Bonner

Division of Oil, Gas and Mining  
**OPERATOR CHANGE WORKSHEET**

**ROUTING**

1. DJJ

2. CDW

Change of Operator (Well Sold)

**X - Operator Merger**

The operator of the well(s) listed below has changed, effective:

**6/1/2007**

**FROM: (Old Operator):**

N2525 - The Houston Exploration Company  
 1100 Louisiana, Suite 2000  
 Houston, TX 77002

Phone: 1-(713) 830-6800

**TO: ( New Operator):**

N6965-Forest Oil Corporation  
 707 17th St, Suite 3600  
 Denver, CO 80202

Phone: 1 (303) 812-1755

**CA No.**

**Unit:**

| WELL NAME         | SEC | TWN | RNG | API NO | ENTITY NO | LEASE TYPE | WELL TYPE | WELL STATUS |
|-------------------|-----|-----|-----|--------|-----------|------------|-----------|-------------|
| SEE ATTACHED LIST |     |     |     |        |           |            |           |             |

**OPERATOR CHANGES DOCUMENTATION**

Enter date after each listed item is completed

- (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 7/30/2007
- (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 7/30/2007
- The new company was checked on the **Department of Commerce, Division of Corporations Database** on: 7/31/2007
- Is the new operator registered in the State of Utah: Business Number: 571171-0143
- If **NO**, the operator was contacted on:
- (R649-9-2) Waste Management Plan has been received on: IN PLACE
- Inspections of LA PA state/fee well sites complete on: YES
- Reports current for Production/Disposition & Sundries on: YES
- Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM not yet BIA
- Federal and Indian Units:**  
The BLM or BIA has approved the successor of unit operator for wells listed on: n/a
- Federal and Indian Communization Agreements ("CA"):**  
The BLM or BIA has approved the operator for all wells listed within a CA on: n/a
- Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject**, for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: n/a

**DATA ENTRY:**

- Changes entered in the **Oil and Gas Database** on: 7/31/2007
- Changes have been entered on the **Monthly Operator Change Spread Sheet** on: 7/31/2007
- Bond information entered in RBDMS on: 7/31/2007
- Fee/State wells attached to bond in RBDMS on: 7/31/2007
- Injection Projects to new operator in RBDMS on: n/a
- Receipt of Acceptance of Drilling Procedures for APD/New on: pending

**BOND VERIFICATION:**

- Federal well(s) covered by Bond Number: 6236351
- Indian well(s) covered by Bond Number: n/a
- (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number 6218963
- The **FORMER** operator has requested a release of liability from their bond on: not yet

**LEASE INTEREST OWNER NOTIFICATION:**

- (R649-2-10) The **FORMER** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: 8/1/2007

**COMMENTS:**

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

5. LEASE DESIGNATION AND SERIAL NUMBER:

See Attached List

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT or CA AGREEMENT NAME:

1. TYPE OF WELL

OIL WELL ☐

GAS WELL ☐

OTHER

8. WELL NAME and NUMBER:

See Attached List

2. NAME OF OPERATOR:

Forest Oil Corporation

9. API NUMBER:

various

3. ADDRESS OF OPERATOR:

707 17th Street, #3600

CITY Denver,

STATE CO

ZIP 80202

PHONE NUMBER

(303) 812-1755

10. FIELD AND POOL, OR WILDCAT:

4. LOCATION OF WELL

FOOTAGES AT SURFACE: See attached list

COUNTY:

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:

STATE:

UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

| TYPE OF SUBMISSION  | TYPE OF ACTION  |   |  |
|---|---|---|--|
| <input type="checkbox"/> NOTICE OF INTENT<br>(Submit in Duplicate)<br>Approximate date work will start:<br>_____          | <input type="checkbox"/> ACIDIZE                        | <input type="checkbox"/> DEEPEN                           | <input type="checkbox"/> REPERFORATE CURRENT FORMATION               |
|   | <input type="checkbox"/> ALTER CASING                   | <input type="checkbox"/> FRACTURE TREAT                   | <input type="checkbox"/> SIDETRACK TO REPAIR WELL                    |
|   | <input type="checkbox"/> CASING REPAIR                  | <input type="checkbox"/> NEW CONSTRUCTION                 | <input type="checkbox"/> TEMPORARILY ABANDON                         |
|   | <input type="checkbox"/> CHANGE TO PREVIOUS PLANS       | <input type="checkbox"/> OPERATOR CHANGE                  | <input type="checkbox"/> TUBING REPAIR                               |
|   | <input type="checkbox"/> CHANGE TUBING                  | <input type="checkbox"/> PLUG AND ABANDON                 | <input type="checkbox"/> VENT OR FLARE                               |
| <input checked="" type="checkbox"/> SUBSEQUENT REPORT<br>(Submit Original Form Only)<br>Date of work completion:<br>_____ | <input type="checkbox"/> CHANGE WELL NAME               | <input type="checkbox"/> PLUG BACK                        | <input type="checkbox"/> WATER DISPOSAL                              |
|   | <input type="checkbox"/> CHANGE WELL STATUS             | <input type="checkbox"/> PRODUCTION (START/RESUME)        | <input type="checkbox"/> WATER SHUT-OFF                              |
|   | <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS | <input type="checkbox"/> RECLAMATION OF WELL SITE         | <input checked="" type="checkbox"/> OTHER: <u>Change of Operator</u> |
|   | <input type="checkbox"/> CONVERT WELL TYPE              | <input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION |  |

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

N2525

Effective 6/1/2007 please change the operator for the attached list of Utah wells from The Houston Exploration Company N-2525 to Forest Oil Corporation (N-6965). Forest merged with The Houston Exploration Company, a copy of the merger document is attached.. The contract operated wells will continue to be contract operated by Enduring.

Forest Oil Corporation as new operator, accepts all applicable terms, conditions, stipulations and restrictions concerning approved operations conducted on the lease or portion of the lease described.

Forest Oil Corporation meets the State of Utah bonding requirements under Safeco bond #6218963.

Please send all future correspondence to Forest Oil Corporation at the above listed address.

Forest Oil Corporation, 707 17th Street, Suite #3600, Denver, CO 80202

  
J. C. Ridens, Senior Vice President - Western Region

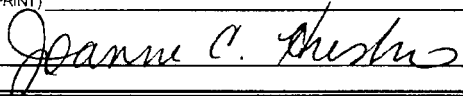
7-5-07

Date

NAME (PLEASE PRINT) Joanne C. Hresko

TITLE Vice President & General Mgr. - Northern Division

SIGNATURE



DATE 7-5-07

(This space for State use only)

APPROVED 7/13/07

Earlene Russell

(5/2000)

Division of Oil, Gas and Mining  
Earlene Russell, Engineering Technician

(See Instructions on Reverse Side)

No wells in APD status or  
at New status  
at this time

RECEIVED

JUL 30 2007

DIV OF OIL, GAS & MINING

WMP

| well_name                   | sec | tpw  | rng  | api        | entity | lease   | well | stat | flag | unit | qtr_qtr | l_num      | op no |
|-----------------------------|-----|------|------|------------|--------|---------|------|------|------|------|---------|------------|-------|
| FEDERAL 28-01               | 28  | 080S | 250E | 4304730098 | 10095  | Federal | GW   | S    |      |      | SESE    | UTU-016257 | N2525 |
| CONOCO STATE 32-2           | 32  | 080S | 250E | 4304730100 | 10096  | State   | GW   | S    |      |      | NENE    | ML-11124   | N2525 |
| ROCK HOUSE 11-31            | 31  | 100S | 230E | 4304733312 | 13984  | Federal | GW   | P    |      |      | NESW    | UTU-76281  | N2525 |
| BONANZA 4B-12               | 12  | 090S | 230E | 4304733806 | 14593  | Federal | D    | PA   |      |      | NWNW    | UTU-74426  | N2525 |
| WALKER HOLLOW 13-31         | 31  | 060S | 230E | 4304735039 |        | Federal | GW   | LA   |      |      | SESW    | UTU-76280  | N2525 |
| ROCK HOUSE 6D-32            | 32  | 100S | 230E | 4304735409 | 14293  | State   | GW   | S    |      |      | SESW    | ML-47063   | N2525 |
| BONANZA 2B-16               | 16  | 090S | 240E | 4304735694 | 14186  | State   | D    | PA   |      |      | NWNE    | ML-46526   | N2525 |
| ROCK HOUSE 2D-36            | 36  | 100S | 220E | 4304735759 | 14357  | State   | GW   | P    |      |      | NWNE    | ML-47061   | N2525 |
| ROCK HOUSE 2D-32            | 32  | 100S | 230E | 4304735760 | 14317  | State   | GW   | S    |      |      | NWNE    | ML-47063   | N2525 |
| ROCK HOUSE 10D-32           | 32  | 100S | 230E | 4304735761 | 14318  | State   | GW   | S    |      |      | NWSE    | ML-47063   | N2525 |
| ROCK HOUSE 12D-32           | 32  | 100S | 230E | 4304735762 | 14294  | State   | GW   | P    |      |      | NWSW    | ML-47063   | N2525 |
| ROCK HOUSE 11-36            | 36  | 100S | 220E | 4304735900 | 14478  | State   | GW   | P    |      |      | NESW    | ML-46907   | N2525 |
| ROCK HOUSE 4-36             | 36  | 100S | 220E | 4304735901 | 14449  | State   | GW   | S    |      |      | NWNW    | ML42061    | N2525 |
| BONANZA 12A-22              | 22  | 090S | 240E | 4304735922 | 14520  | Federal | D    | PA   |      |      | NWSW    | UTU-78118  | N2525 |
| BONANZA 14-16               | 16  | 090S | 240E | 4304735941 | 14521  | State   | D    | PA   |      |      | SESW    | ML-46526   | N2525 |
| ROCK HOUSE 11-2             | 02  | 110S | 230E | 4304736153 | 14695  | State   | GW   | P    | C    |      | NESW    | ML-47078   | N2525 |
| ROCK HOUSE 7-32-10-23       | 32  | 100S | 230E | 4304736306 | 14766  | State   | GW   | S    |      |      | SWNE    | ML-47063   | N2525 |
| ROCK HOUSE 3-32-10-23       | 32  | 100S | 230E | 4304736307 | 14781  | State   | GW   | P    |      |      | NENW    | ML-47063   | N2525 |
| ROCK HOUSE 5-32-10-23       | 32  | 100S | 230E | 4304736410 | 14727  | State   | GW   | S    |      |      | SWNW    | ML-47063   | N2525 |
| GUSHER 6-2                  | 02  | 060S | 190E | 4304736963 |        | State   | OW   | LA   |      |      | SESW    | ML-49144   | N2525 |
| N HORSESHOE 3-16-6-21       | 16  | 060S | 210E | 4304737391 | 15716  | State   | GW   | DRL  | C    |      | NENW    | ML-49317   | N2525 |
| N HORSESHOE 12-7-6-22       | 07  | 060S | 220E | 4304737392 |        | State   | GW   | LA   |      |      | NWSW    | ML-47969   | N2525 |
| N HORSESHOE 16-9-6-22       | 09  | 060S | 220E | 4304737393 |        | State   | GW   | LA   |      |      | SESE    | ML-47969   | N2525 |
| N HORSESHOE 14-10-6-22      | 10  | 060S | 220E | 4304737394 |        | State   | GW   | LA   |      |      | SESW    | ML-47969   | N2525 |
| N HORSESHOE 2-15-6-22       | 15  | 060S | 220E | 4304737395 |        | State   | GW   | LA   |      |      | NWNE    | ML-47969   | N2525 |
| N HORSESHOE 4-15-6-22       | 15  | 060S | 220E | 4304737396 |        | State   | GW   | LA   |      |      | NWNW    | ML-47969   | N2525 |
| N WALKER HOLLOW 12-32-6-23  | 32  | 060S | 230E | 4304737397 |        | State   | GW   | LA   |      |      | NWSW    | ML-47777   | N2525 |
| N WALKER HOLLOW 16-32-6-23  | 32  | 060S | 230E | 4304737398 |        | State   | GW   | LA   |      |      | SESE    | ML-47777   | N2525 |
| N WALKER HOLLOW 2-32-6-23   | 32  | 060S | 230E | 4304737399 | 15741  | State   | GW   | DRL  | C    |      | NWNE    | ML-47777   | N2525 |
| N WALKER HOLLOW 10-32-6-23  | 32  | 060S | 230E | 4304737400 |        | State   | GW   | LA   |      |      | NWSE    | ML-47777   | N2525 |
| N WALKER HOLLOW 8-32-6-23   | 32  | 060S | 230E | 4304737401 |        | State   | GW   | LA   |      |      | SENE    | ML-47777   | N2525 |
| N WALKER HOLLOW 11-36-6-23  | 36  | 060S | 230E | 4304737462 |        | State   | GW   | LA   |      |      | NESW    | ML-47970   | N2525 |
| N WALKER HOLLOW 13-36-6-23  | 36  | 060S | 230E | 4304737463 |        | State   | GW   | LA   |      |      | SWSW    | ML-47970   | N2525 |
| N WALKER HOLLOW 15-36-6-23  | 36  | 060S | 230E | 4304737464 |        | State   | GW   | LA   |      |      | SWSE    | ML-47970   | N2525 |
| N WALKER HOLLOW 14-32-6-23  | 32  | 060S | 230E | 4304737478 |        | State   | GW   | LA   |      |      | SESW    | ML-47777   | N2525 |
| HACKING RES 11-32-8-25      | 32  | 080S | 250E | 4304737479 |        | State   | GW   | LA   |      |      | NESW    | ML-11124   | N2525 |
| HACKING RES 3-32-8-25       | 32  | 080S | 250E | 4304737480 |        | State   | GW   | LA   |      |      | NENW    | ML-11124   | N2525 |
| HACKING RES 5-32-8-25       | 32  | 080S | 250E | 4304737481 |        | State   | GW   | LA   |      |      | SWNW    | ML-11124   | N2525 |
| HACKING RES 15-32-8-25      | 32  | 080S | 250E | 4304737482 |        | State   | GW   | LA   |      |      | SWSE    | ML-11124   | N2525 |
| HACKING RES 9-32-8-25       | 32  | 080S | 250E | 4304737483 |        | State   | GW   | LA   |      |      | NESE    | ML-11124   | N2525 |
| HACKING RESERVOIR 7-32-8-25 | 32  | 080S | 250E | 4304737571 | 15885  | State   | GW   | DRL  | C    |      | SWNE    | ML-11124   | N2525 |